The Effect of Posttraumatic Stress Disorder Psychoeducation on the Nature and Severity of Traumatic Stress Symptoms in a Burundian sample

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Dedications

To my wife Kate, without whose support I could never had done this work. Thank you for encouraging me to go, covering home base, and welcoming me home. I love you.

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Abstract

The Effect of Posttraumatic Stress Disorder Psychoeducation on the Nature and Severity of Traumatic Stress Symptoms in a Burundian sample

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Post-Traumatic Stress Disorder (PTSD) was recognized in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–III) in 1980 as a syndrome associated with the experience of a traumatic event (APA, 1980). In recent years, the diagnosis of PTSD has been increasingly applied to diverse cultural settings, even as the validity of the construct sparks controversy and debate. Argument continues over whether the symptoms of PTSD are more driven by universal biological response or cultural factors. A review of the literature that documents recent efforts to identify and treat posttraumatic stress symptoms in diverse populations is provided. Given evidence for the suggestive and iatrogenic effects of some PTSD treatment methods and other interventions, as well as the theoretical support for the presence of social influences germane to cross-cultural research and treatment, it was proposed that PTSD-specific psychoeducation in pre-industrialized settings might diminish otherwise beneficial treatment effects. The present project drew on an indigent, rural Burundian sample and used an experimental design to examine the influence of PTSD psychoeducation on the nature and severity of traumatic stress symptoms reported. Participants were randomized to three conditions: A reconciliation workshop with psychoeducation, a reconciliation workshop without psychoeducation, and a waitlist control. Results showed that

participants in the psychoeducation condition experienced a diminished reduction of PTSD symptoms relative to other conditions. There was no differential effect by condition on more general symptoms of anxiety, depression, and somatization symptoms. Secondary hypotheses predicting relationships at baseline between prior exposure to trauma models developed in industrialized societies and the nature and severity of posttraumatic stress symptoms were not supported. The findings are discussed in terms of how they might inform intervention development for traumatic stress in non-industrialized cultural settings

CHAPTER 1: INTRODUCTION

Global increase in violence and displacement

The need to identify how people respond to and how they recover from traumatic events has become a central issue in international psychological and humanitarian domains. Most of the research and interventions promulgated by social scientists and doctors from the West (United States, Canada, and most of Europe) over the past three decades posit that posttraumatic stress disorder (PTSD) is the prototypical reaction to trauma. However, the applicability of the construct and the impact of its dissemination in culturally diverse settings remain understudied.

The need for an informed international community to contribute to the recovery of post-conflict societies continues to grow, as the world has seen an increase in violent loss of life and the displacement of people from their homes and countries over the second half of the last century. Between the end of the Second World War and 1990, there have been 190 armed conflicts (WHO, 2002). Three quarters of these armed conflicts occurred in developing countries (WHO, 2002). In the year 2000 alone, there were over 310,000 deaths that were the direct result of armed conflict (WHO, 2002). The most significant change in the nature of these fatalities as compared with past eras is the percentage of civilian deaths. In terms of percentage of war-related fatalities, during WWII civilians comprised only five percent. By the late 1980's, civilians comprised over 84% of war-related fatalities (Zwi, 1991). The suffering of war is increasingly

wrought upon civilian populations. Many of those who avoided death did so only by fleeing their homes or countries.

Those who fled their communities but did not leave their country are considered Internally Displaced Persons (IDP). Many such IDP's remain unable to return home. In 2002, there were over 12.7 million IDP's in Africa, two-thirds of which were found in Central or Southern Africa (Global IDP Survey, 2003). Internally Displaced Persons suffer the loss of communal and familial relations, loss of home and property, loss of work, and protracted social instability and insecurity. Furthermore, IDP's are not typically targeted for humanitarian assistance as they have not crossed national borders and are not considered refugees (Kagee & Del Soto, 2003).

Meanwhile, interventions for PTSD are increasingly provided as part of humanitarian packages developed by international agencies for pre-industrialized populations in disaster and post-conflict settings. Yet, the dissemination of such information far exceeds the extent of our knowledge as to both the applicability and effect of such information. In the absence of substantial prior research, there is a paucity of knowledge as to the impact such programs have on people of different cultures. Some argue that the exportation of trauma psychoeducation may be at best inert, and at worst, harmful. What diverse groups consider traumatic, how they respond to trauma, and the type of treatment from which they will most benefit, needs continued discernment to appropriately inform international response in the assistance of recovery from disaster and war.

As the industrialized world has expanded its role in the provision of all types of resources to impoverished countries, such aid has increasingly included mental health

care and psychological treatment. Some scholars have questioned the applicability of these models of traumatic stress response to pre-industrialized populations (Summerfield, 2004; Kagee & Del Soto, 2003). When foreign nations provide such services, it is critical to examine the relevance and the effect of these models when exported to people in other countries.

Post-Traumatic Stress Disorder

Post-Traumatic Stress Disorder (PTSD) as a diagnosis was first recognized in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) (APA, 1980). The PTSD diagnosis includes a prerequisite traumatic event, three symptom clusters, a requisite duration of symptoms of one month beyond the associated event, and a significant decrease in functioning. The intrusion subcategory includes dreams or flashbacks reminiscent of the event, intrusive thoughts about the event, and emotional distress and physiological reactivity to cues associated with the event. The avoidance/numbing subcategory includes the avoidance of people and places that are reminders of the event, the inability to remember all the details of the event, feelings of detachment from others, a restricted range of affect, and a sense of a foreshortened future. The hyperarousal subcategory includes an exaggerated startle response, difficulty concentrating or falling asleep, outbursts of anger, and hypervigilance.

Since its inception PTSD has been embroiled in debate over multiple issues. Major controversies about the diagnosis include the political climate in which it was conceived, the recent broadening of the definition of the requisite Criterion A event, and the theorized nature of traumatic memory. First, PTSD was established within a political climate and was largely promulgated by anti-war activists and psychiatrists trying to

address the needs of returning Vietnam veterans. The preliminary name of the proposed disorder was "post-Vietnam syndrome" and the establishment of the disorder gave legitimacy to much of the post-combat suffering reported by Vietnam War veterans and their advocates (Herbert & Forman, 2006; McNally, 2004). No diagnostic construct is developed in a political vacuum; indeed, such neutrality is neither possible nor advised. At the same time, the more that the establishment of diagnostic constructs are born out of political debate, the more we must cautiously assess whether the construct has sound scientific merit. Second, scholars debate the nature of the event that should satisfy Criterion A, a traumatic event that must precede the manifestation of symptoms. Researchers assert that such an event criterion has become even more troublesome as the definition of a traumatic event has been broadened in new versions of the DSM and in popular culture. Specifically, DSM-IV (APA, 1994) expanded the Criterion A definition to include having a reaction of horror or fear from *hearing* about the traumatic event suffered by someone else. Some have argued that being offended by a sexual or otherwise inappropriate joke might even constitute a Criterion A event (Avina & O'Donohue, 2002). Such expansion of Criterion A leads to a conceptual problem in which potentially fatal events are clustered with such "traumas" as hearing an obscene or distasteful joke. The specificity of the criteria is thus rendered diluted to the point of meaninglessness (Rosen, 2004). In contrast, findings show that the Criterion A experience of being the target of attempted killing is more predictive of PTSD symptoms than any other event (Fontana, Rosenheck, Brett, 1992). Other research has found that PTSD symptoms were significantly greater among those reporting only "life events" than those reporting traumatic events over a 30-year period (Mol et. al., 2005). This

study implicates the specificity of PTSD symptoms and suggests that their genesis may be no more the result of traumatic experiences than of nontraumatic ones. Finally, PTSD as it is currently conceived also implies that traumatic memories can be accessed after the active, self-protective repression of that memory (Bloom, 1997). However, such a model fundamentally contradicts a substantial body of empirical research that concludes that such mechanisms of repression and of memory preservation are not evident (Lynn, Knox, Fassler, Lillienfeld, & Loftus, 2004; McNally, 2003).

Thus, controversy exists over PTSD's unique symptom profile, the political nature of its inception, the broadening category of the requisite traumatic event, the specificity of the syndrome and its ties to any traumatic event however defined, and the mechanism of putatively repressed memories. Researchers and clinicians also debate the degree to which the traumatic stress response as identified by PTSD is predominantly biologically determined and therefore universal, or is culturally constructed and therefore more variable.

Is PTSD a universal disorder?

All psychological disorders are determined by some combination of environmental and biological factors. It is commonly assumed or indicated that some diagnoses are primarily biologically based whereas others are primarily shaped by cultural and environmental factors. Over the past three decades the assumption of the universality of PTSD and its usage as a construct in various diverse cultural settings has presumed the absence of cultural influence on traumatic stress reactions (McNally, 2003). Whereas some acknowledge that PTSD is born out of a combination of biological and cultural factors (Marsella, 1996), additional research has focused on two central

questions whose aims are to discern the degree to which PTSD reflects a universal condition or a cultural construction. Historians scour archives for evidence that past manifestations of traumatic stress have remained constant over time, and psychologists look to confirm the presence or absence of PTSD symptoms in traditional cultures not yet extensively under the influence of modern industrial society.

Evidence in British military history suggests that the severity and nature of posttraumatic stress are in part culturally determined (Shepard, 2003). The changes in severity of symptomatology that are attributed to alterations in British military's psychiatric treatment strategies are an example of how posttraumatic stress has changed over the course of the last century. After a disastrous number of WWI soldiers returned home with war neurosis, British psychiatrists removed disability compensation and changed treatment strategies before the advent of the Second World War. An emerging theory proposed that the distress reported by soldiers returning from battle was a product of how soldiers might benefit from having such symptoms. Therefore, the British reduced the possibility of discharge as the result of "shell-shock," treated soldiers at locations close to the front line, largely prevented long-term hospitalizations involving returning to England, and with a few exceptions, replaced the awarding of pensions with a single disability payment.

Similar strategies were applied to British civilians (Shephard, 1999). In public campaigns, Londoners were told that the symptoms they were experiencing were a part of a natural fear response, and if they continued to focus on their work and responsibilities, these symptoms would resolve. There were surprisingly few psychiatric

casualties among civilians despite the continuous barrage of the German bombing campaigns.

The vast reduction in British solider war neuroses from the 120,000 pensioners of the First World War is largely attributed to the elimination of any suggestion of pathology during treatment, and to the careful selection of soldiers who lacked histories of previous trauma and psychological instability (Shephard, 1999). Germany's low rate of war neurosis and the United States' high rate of psychiatric casualties after WWII and Vietnam may similarly stem from the iatrogenic product of the expectation of pathology that each of those country's psychiatric communities presented to their returning soldiers.

The evolution of the nature of traumatic stress symptoms over the last 100 years can serve to substantiate a similar perspective (Herbert & Sageman, 2004). Changing medical perspectives have largely determined how the symptoms of "adversity-linked disorders" are manifest. The paralysis associated with Erichsen's "railway spine" and Beard's "neurasthenia" were at first thought to be biologically based, but were later identified as psychological in nature. Babinski, when summarizing the work of his mentor, Charcot, and his protégés, concluded that the hysterias under consideration were in fact the product of suggestion (Herbert & Sageman).

Babinksi's caution influenced the treatment of the Allies' casualties by the middle of the Great War (Herbert & Sageman, 2004). Paramount to the approach was the elimination of any hint of suggestion of protracted emotional disability. This strategy incorporated the principles of proximity, immediacy, and expectation. That is, casualties were treated as close to the battlefield as was possible, were returned to their duties as

quickly as possible, and were steeped in expectation that they would recover from the temporary distress that the preceding events had caused. Though these strategies were implemented somewhat late in the First World War, they led to a dramatic reduction in emotional casualties. The changing picture of traumatic stress over time from "paralysis to…hemianesthesia, fatigue, mutism and intractable trembling" (Herbert & Sageman, p.220) to the modern day PTSD trinity of symptoms of intrusion, avoidance/numbing, and hyperarousal, and the success of the prevention strategies discussed above, bolster the argument that the specific symptoms comprising PTSD are in part a product of cultural factors.

A parallel argument to Shephard's (1999) and Herbert and Sageman's (2004) historical perspective can be found in the debate over whether or not the specific PTSD syndrome is uniform across world cultures. PTSD may be a product of an era in which we increasingly understand the psychology of an individual in terms of vulnerability instead of resiliency (Summerfield, 2004). The absence of faith and conviction in the post-modern era and an increased orientation toward introspection fosters a sense of uncertainty and emotional vulnerability (Pupavec, 2004). As the discourse on psychology of industrialized nations becomes ubiquitous around the world, we risk exporting such self-conceptualizations of "damaged goods" to other cultures where healthfulness may have been maintained by an emphasis on stoicism, where a fatalistic perspective dominates, and where primary import is placed on the social network of the family and the community rather than the individual (Summerfield, 2004). Industrialized paradigms anticipate the manifestation of distress within cognitions, emotions, and behavior and focus on the reduction or management of distressful psychological

symptoms as the means to individual recovery. Yet many individuals in pre-industrialized cultures are oriented more to the psychosocial healing of the extended family and community, and tend to express distress through somatic complaints (Bracken, Giller, & Summerfield, 1995). Distress has become equated with psychopathology and the effect of the PTSD diagnosis is to emphasize the "traumatogenic nature" of an event over any resilience and protective factors (Summerfield, 2001; Kagee & Naidoo, 2004).

Other critics have questioned the applicability of PTSD in pre-industrialized settings given the dramatic cultural differences that exist. The notion of individuality on which nosologies of psychopathology are predicated is relatively unfamiliar to more collectivistic conceptualizations of distress (Bracken et al., 1995). Pre-industrialized cultures often take more of a "socio-centric" than an "ego-centric" view of society (Zur, 1996). Differences in the nature of traumatic stress symptoms have been linked to individualistic and collectivistic cultural differences (Elsass, 2001). Even as there may exist a general universal response to trauma, the application of PTSD as a construct on which to base assessment potentially minimizes the differences that do exist (Bracken et al.; Kagee & Naidoo). Similarly, the literature offers numerous examples of how the subjective meaning of traumatic events may mediate the nature of one's response to it (Zur, 1996). For instance, Punamaki (1996) found that ideological commitment mediated Israeli youth distress from political hardships. Understanding the nature of the traumatic experience must take place within a framework that considers the individual's larger familial and cultural experience (Morsette, 2006).

PTSD in pre-industrialized, post-conflict settings

A limited number of studies assess the traumatic stress response in victims of violence who have either remained in their home country or whose new environment does not constitute a radical cultural shift to the West. A comprehensive review of PTSD prevalence rate studies found that only 6% (8 out of 135) used samples from developing countries (De Girolamo & McFarlane, 1996). Furthermore, the relevance of such studies in developing countries is not well established, given dramatic differences in "cultural patterns, social structures, and coping behavior…that may significantly influence the incidence, severity, and psychosocial outcomes of PTSD" (De Girolamo & McFarlane, p.53). A few studies have attempted to identify PTSD symptoms in these groups, whereas others have assessed symptoms more broadly. Illustrative comparisons of prevalence rates and symptom severity are made difficult given diverse samples, settings, and methodologies.

PTSD symptoms were solicited from a small sample of victims of domestic violence among the Ju/'hoansi (Kalahari Bushmen) of eastern Namibia, one of the world's last ethnic groups still transitioning from a hunter-gatherer lifestyle (McCall & Resick, 2003). First, a feasibility study was conducted in which Ju/'hoansi women were solicited for recommendations of community members who had suffered domestic violence and who had shown any of the standard symptoms associated with PTSD. These twenty pre-selected individuals were then interviewed about their symptoms. Thirty-five percent met criteria for PTSD and 85% reported at least some avoidance/numbing symptoms, but not to the degree that DSM-IV criteria were met (three or more) (McCall & Resick). The report does not specify the time interval

between trauma exposure and symptom solicitation, so it is impossible to know if what is being described is more of an acute stress reaction.

The study merits attention in its aim of assessing PTSD symptoms in as ancient and semi-nomadic a cultural group as exists anywhere today, but there remain methodological concerns. First, the effect of a feasibility study was to select out any domestic violence victims who did not exhibit symptoms. The sample was essentially selected to ensure each subject had at least some PTSD symptoms. Second, there was no assessment of the presence of non-PTSD symptoms. Thus, the results serve the question of "can PTSD symptoms be found in the Ju'/hoansi people," without first considering the more essential question of "does PTSD best describe the Ju/hoansi's reaction to traumatic experiences." The former question appropriately reflects the methods used. A highly suggestible cohort of subjects was asked if they ever have had a particular set of pre-determined symptoms without first asking what sort of symptoms one develops after such events in a representative sample of the population at large.

PTSD symptoms were assessed in a sample of Sierra Leonean refugees in a refugee camp in The Gambia (Fox & Tang, 2000). Researchers administered the Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992) to assess the nature and frequency of traumatic events as well as the ensuing sequelae, and the HSCL-25 to assess depression and anxiety. The HTQ includes 14 symptom items that were added to reflect a broader set of possible symptoms within the East Asian cultural context. Examples of additional items included “feeling ashamed of the hurtful or traumatic events that have happened to you” and “feeling guilty for having survived” (Mollica et al., 1992).

A sample of 55 subjects produced a mean score on the HTQ of 2.56 (*SD* = .44) (Fox & Tang, 2000). Forty-nine percent of the sample yielded scores indicative of PTSD by exceeding the HTQ threshold of 2.5 established in reference to an East Asian sample (Mollica et al., 1992). Note that Mollica's cut-off is stated as the threshold for being symptomatic for PTSD but should not be considered equally valid as a clinical diagnosis. On the HSCL-25, 80% (for anxiety) and 85% (for depression) of the sample scored above the clinical cut-off levels. The absence of an indicated time interval between trauma exposure and symptom solicitation makes it impossible to confirm that the symptoms endorsed were not part of an acute stress reaction. This study suggests that while PTSD symptoms may be present in the population, generalized symptoms of depression and anxiety are much more common.

This study made good use of the most appropriate measures and assesses symptoms beyond the PTSD domain. Critical procedural elements such as use of indigenous staff and blind back translation were not described, so it is not known to what extent these procedures were prioritized. The authors acknowledged the limitation of using a measure (HTQ) validated for an East Asian sample. While pursuing a breadth of symptoms, they failed to comment on their notable result that 30% more of the sample met criteria for anxiety or depression than did for PTSD. They commented on the controversy of the application of the PTSD construct to a pre-industrialized setting, but did not discuss the implication of their findings that PTSD may not be the most appropriate construct of posttraumatic stress. The rates of PTSD were based on scores derived from a symptom set inclusive of many symptoms not included in the DSM-IV's definition of PTSD (APA, 2000). While the additional items may better reflect

posttraumatic stress in this sample, their concept was somewhat dissimilar from the standard PTSD construct. Finally, there was no mention of the potential influences of social desirability and of a power differential between scientist and participant. Both were likely to have influenced the responses of understandably desperate refugees.

In Sierra Leone, a study coordinated by the nongovernmental aid organization Medicins Sans Frontières assessed for the presence of PTSD in a sample of 245 residents and Internally Displaced Person (IDP's) near Freetown (Raymond, 2000). The study was conducted five months after a period of extreme violence. Four questionnaires comprised a structured interview. These included demographics, exposure to traumatic events, PTSD symptoms, and non-specific health complaints. The Impact of Events Scale (IES) was administered to assess PTSD symptoms. Results indicated that 99% of respondents had scores indicative of PTSD (Raymond, 2000). The author acknowledges that the IES has not been validated in this region of the world, and argues without references that it has yielded consistent results around the world. Ironically, other studies in similar settings have abandoned the IES after determining accurate translation to be unfeasible (Terheggen, 2001). The reporting of such high rates merits suspicion, even when the group reported extremely high rates of exposure to traumatic events. (Eighty-four percent had had their village attacked and 83% had been exposed to aerial bombing.) The extremely high rate of PTSD was likely due in part to the potential confounds of the power differential between scientist and participant, the influence of social desirability present in a refugee camp, and the use of a PTSD measure that others had found to lack validity in such settings. Though somatization was also assessed, all data was collected from standardized measures, and was therefore subject to the

confound of suggestion. Open-ended questions soliciting a breadth of symptoms would have served to corroborate or call into question these extreme findings.

One year after the Rwandan Genocide, 1,830 Rwandan children were interviewed using the Impact of Event Scale about their experiences and their reactions (Dyregrov, Gupta, Gjestad, & Mukanoheli (2000). More than two-thirds reported intrusive symptoms. Arousal symptoms were also common. Avoidance symptoms were much less frequent and did not correlate with intrusion. The three independent variables of exposure (loss of family members, threat of dying, and witnessing violence of different types) did not predict avoidance, except in one case (threat of dying). These exposure variables did predict intrusion and arousal at significant levels. Seventy-nine percent of the children exceeded the IES cutoff for PTSD (of 17) one year after the Genocide. Beyond the assessment of PTSD symptoms, a Grief Reaction Inventory was administered. However, the results were not reported in the same article.

This study addressed many of the concerns that are critical for cross-cultural research. The use of well-trained, indigenous staff, rigorous translation methods, and an acknowledgement of the influence of social desirability on participants' responses were all assets to the design. A few items of the IES were almost impossible to translate well, and the use of this measure without beginning with open-ended, non-suggestive questions, would have led to better substantiated conclusions. The researchers also failed to assess other symptoms beyond the addition of a Grief Reaction Inventory.

In Northern Uganda, 216 Sudanese children living as refugees were compared to a group of 80 Ugandan children who had not experienced war and flight (Paardekooper, de Jong, & Hermanns, 1999). Researchers used a structured interview organized around

four different measures that broadly assessed symptoms associated with trauma, depression, and grieving. The Sudanese refugees and Ugandan residents revealed significant differences in a number of areas. Sudanese refugees had experienced significantly more traumatic events and less social support. They reported more disturbances from memories, more worries about their future and about the risk of siblings being hurt, as well as more suicidal ideation. Even though the Sudanese children did report more symptoms commonly associated with PTSD, the authors appropriately abstain from reporting on psychopathology given the lack of validated measures available for use with Ugandan and Sudanese children. The study did not specify the time interval between trauma exposure and symptom solicitation, but it is implied to have exceeded more than one month.

Reasons for caution in drawing conclusions from the current literature

The literature on traumatic stress reactions in people living in Africa is limited and its findings are diverse. Much of the research to date has found highly variable prevalence rates of PTSD and posttraumatic symptoms (Marsella, 1996). Conclusions from the studies discussed above should be evaluated cautiously, as results are often influenced by methodological issues of translation and unvalidated measures, a narrow solicitation of symptoms, and social influences of social desirability, a pre-existing power imbalance, and the possible benefits of secondary gain. Few studies acknowledge the influence of social desirability (e.g. Dyregrov et al., 2002). Equally few refrain from commenting on psychopathology, though many acknowledge the absence of culturally validated questionnaires (e.g. Paradekooper et al., 1999). In contrast, McCall and Resick (2003) claim evidence for PTSD among the Ju/'hoansi after simply asking each pre-

selected subject to endorse the 17 PTSD symptoms exactly as found in the DSM-IV-TR (APA, 2000). All results should be considered preliminary and should be critiqued with respect to both methodological issues and particular social influences relevant to cross-cultural research. Key methodological issues presented below should always provide a context in which results of cross-cultural research are interpreted.

Methodological issues

Translation and validation. Careful translation and back translation is essential, but is not always conducted (Marsella, 1987). Even with the best of translation efforts, complex concepts may not be adequately preserved. One trauma healing workshop in Burundi spent a full day trying to translate the word "trauma." They choose a Kirundi phrase that, literally translated, means "having one's heart turned upside down" (A. Niyongabo, personal communication, March 15, 2005). Beyond the challenges of translation, research has often relied on measures that have not been culturally validated (Terheggen et al., 2001). For example, Raymond (2000) used the IES on which to base reporting a PTSD rate of 99%, whereas Terheggen et al. (2001) found that once translated into Tibetan, the IES is unusable for the Tibetan refugee population he studied. The IES is useful as a screening tool but should not be used for purposes of diagnosis (De Girolamo &McFarlane, 1996).

Narrow solicitation of symptoms. Researchers have raised additional concerns that reports of PTSD symptoms are based on a narrow solicitation of symptoms that fail to recognize a broader symptom response (Elsass, 2001; Pupavec, 2002; Kagee & Naidoo, 2004; Bryant, 2006; Yeomans, Herbert, & Forman, in press). Jenkins (1996) warns of a "category fallacy" in which the same categories of a mental disorder are

assumed to be manifest in different cultures. Baron's (2002a) work with IDP's and refugees remaining in non-industrialized cultures led her to summarize typical complaints after traumatic events. Using qualitative analyses and focus groups with Sudanese refugees in Northern Uganda as the primary data collection method, a consistent pattern of symptoms were identified: anxiety, numerous somatic complaints, standard depressive symptoms, estrangement from friends and family, and loss of motivation to care for family and self (Baron, 2002a). Although some of these are common to PTSD, others are not, and the list exhibits a broader symptom picture than offered by the diagnosis of PTSD. These same studies found that refugee and IDP complaints consistently focused more on concerns for survival (lack of food, poor health care, threat of violence), rather than on traumatic events they had suffered and their ensuing symptoms (Baron, 2002b). Moreover, the majority of IDP's and refugees did not develop distressful symptoms as a result of traumatic events (Baron, 2002a); the same has been said to hold true for civilians in industrialized settings (Bonanno, 2004). Another study in Uganda reported that whereas PTSD symptoms were often reported, they were less of the focus of distress than were somatic complaints (Bracken et al., 1995). Similarly, a study in Nicaragua found that while peasants with traumatic histories reported PTSD symptoms, they were not otherwise distressed and remained highly functional (Summerfield & Toser, 1991). Zur (1996) discusses the Quiché Mayan who report recurrent dreams of those who died as a result of atrocities in Guatemala. However, these dreams are associated with positive valence for the comfort that they give. Indeed, even the most comprehensive battery of symptom measures may fail to

critically assess degree of functional impairment (Kagee & Naidoo, 2004). The endorsement of symptoms should not necessarily assume dysfunction (Bryant, 2006).

As a result of such a narrow symptom solicitation researchers potentially find only what they were investigating (Bracken et al., 1995). Such an approach enhances the influence of a confirmation bias and, without the consideration of other symptom domains, leads to the conclusion that PTSD is a universal construct for posttraumatic stress (Herbert & Forman, 2006). Recent studies in diverse nations that have only solicited PTSD symptoms prematurely conclude that "posttraumatic stress is not a culture-bound syndrome" (Smith, Perrin, Dyregrov, & Yule, 2003, p.321). Such methods do not consider whether PTSD symptoms overlap with the local idiom of distress, whether PTSD symptoms were a subset of that idiom, or vice versa. A PTSD measure should never be considered adequate for making a diagnosis, especially in the cross-cultural context (Keane, Kaloupek, & Weathers, 1996; Green, 1991; Pernice, 1994). If a PTSD measure is all that is employed, PTSD is by definition all one will find.

Social influences on the report of PTSD symptoms

Social desirability. Even a carefully translated and then validated measure is still subject to an effect of social desirability (Dyregrov et al., 2000) in which participants' responses are influenced by their perceptions of what a favorable answer might be. Kinzie and Mason (1987) observed that the responses of Indochinese refugees who lacked prior experience with psychological surveys and interviews were largely influenced by politeness and a desire to respond correctly rather than by their true feelings. For this reason, the use of ethnosemantic methods such as open-ended questions, free-listing, key informant interviews, and pile sorts – all techniques that

solicit information without clearly revealing for what the interviewer is searching – may offer certain advantages over standardized measures (Kagee & Del Soto, 2003; Kleinman & Good, 1985; Marsella, 1996; Wilk & Bolton, 2002).

Power Imbalance. A power differential exists in any therapeutic or health care relationship, yet it is particularly acute in the cross-cultural setting. Locals will often ascribe greater value to modern culture and the perceived knowledge and resources it embodies, while making the home culture less conspicuous in the presence of foreigners. "Hidden power dynamics and the tacit assumptions that Western knowledge trumps local knowledge" can influence how participants choose to answer (Wessels, 1999, p.275). Reading self-report measures aloud to illiterate populations increases the potential effect of the nature of the relationship between the participant and interviewer (Pernice, 1994). Members of traditional cultures often denigrate and abandon their own models when confronted with those of the West, irrespective of their applicability (Peddle et al., 1999).

Social causes. Other writers caution that the use of the PTSD diagnosis draws attention away from the political and social causes of an event and hides the true cause of traumatic stress: political violence, economic injustice, and issues of security (Nader, Dubrow, & Stamm, 1999; Wessels, 1999). Biomedical conceptualizations and treatment of distress potentially reduce the critical consideration of economic and political forces that contribute to such distress (Bracken et al., 1995). Such cautions are relevant to any investigation of the manifestation of posttraumatic stress symptoms in communities in which models of stress reaction from industrialized regions are introduced and investigated.

Secondary Gain. Beyond the effect of social desirability mentioned above, non-industrialized populations may endorse the symptoms of interest to the outsider with hopes of receiving some sort of secondary benefit often associated with interactions between foreign representatives and local citizens. People who are poverty-stricken and whose environment has been destabilized by violence may very necessarily shape their presentation to increase the odds that they will receive the care and attention that is being offered to those determined as in need (Wessels, 1999; Kagee & Naidoo, 2004). Such a dynamic is not limited to pre-industrialized settings, and PTSD has come to play an essential role in insurance claims, asylum applications, veteran benefits, and the assistance of victims in the United States and elsewhere (Frey, 2001). In these settings, being a victim is more advantageous and beneficial than being a survivor (Summerfield, 2001). Internally Displaced Persons' (IDP) perceived expectations of symptoms eligible for humanitarian assistance may shape their endorsement of symptom items (Kagee, 2004). The insecurity of an IDP camp and the concomitant need to secure resources or a new home, only increase the strength of such influences on symptom report. This is not to say that people are necessarily malingering for personal gain, so much as that their symptoms are in part determined by the climate in which they are solicited.

Suggestion, nocebo effects, and iatrogenesis

Whereas the placebo effect is well documented as resulting in improved outcome, the literature also shows that, through direct or indirect suggestion, exposure to inert substances or procedures can influence the nature of and increase the severity of psychological or physical symptoms. A "nocebo" refers to an inert substance or procedure that, when administered with an expectation of negative effect, in fact has

negative effects on outcome. This includes adverse side effects of placebos (or "reverse placebos") in clinical trials (Bootzin & Bailey, 2005), such as when participants in a placebo condition develop side effects associated with the pharmacological agent being studied. College students consistently reported increases in severity of symptoms (nausea, sore throat) after being asked to recall those same symptoms from a previous illness (Skelton, Loveland, & Yeagly, 1996). Alien abduction "memories" generated by suggestion led to PTSD symptoms comparable to those found among Vietnam veterans (Beckman, 2003). The implantation of false memories by suggestion was demonstrated in several analogue studies (Loftus & Hoffman, 1989). Mass hysteria was a well-supported explanation for outbreaks of respiratory problems, skin irritation, and CNS abnormalities ("Sick Building Syndrome"), to the point that 75% of such outbreaks were never linked to an identifiable environmental cause (Rothman & Weintraub, 1995).

Nocebo and iatrogenic effects are both adverse in nature, but the latter comes from a substance or treatment procedure that is intended to be therapeutic. Interventions with demonstrated iatrogenic effects include group therapy for conduct disorders and Critical Incident Stress Debriefing (CISD). Lipsey's (1992) meta-analysis revealed that, whereas some studies demonstrated effectiveness, 29% of controlled intervention studies for delinquent adolescents showed negative effects (i.e. better outcomes for the control condition). For instance, Dishion, McCord, and Poulin (1999) found that only the high-risk teens randomized to a teen-only substance abuse treatment group showed an increase in smoking at a three-year follow-up. An additional possible, though less conclusive example of iatrogenic effects is found in therapy for psychopathy (D'Silva, Duggan, & McCarthy, 2004).

Critical Incident Stress Debriefing remains the most popular model of intervention in the immediate aftermath of trauma. The three hour training includes a psychoeducational component in which participants learn the types of (posttraumatic) symptoms they may expect to experience (Harbert, 2000). Recent research indicates that CISD is at best inert, and at worst actually causes a worsening of symptoms (McNally, Bryant, & Ehlers, 2003; Sijbrandij, Reitsma, Carlier, & Gersons, 2006). Van Emmerik et al.'s (2002) seven study meta-analysis indicated that CISD participants fared significantly worse than those who received either a non-CISD intervention or no intervention at al. One postulated explanation for this negative effect is that the debriefing makes participants hypersensitive to the presence of symptoms as well as more likely to interpret such symptoms as indicative of protracted distress and dysfunction (Bootzin & Bailey, 2005).

Empirical support in the literature is therefore evident for how direct and indirect suggestion and iatrogenic processes can lead to harmful effects. CISD in particular has a psychoeducational component which has been implicated in the maintenance of traumatic stress symptoms. It therefore follows that dissemination of trauma and PTSD psychoeducation to the pre-industrialized world may be similarly associated with a reduction of otherwise beneficial effects from other treatment components. The addition of substantial cultural differences makes such exportation to these settings an even riskier endeavor.

Trauma education/PTSD treatment interventions for refugees or displaced people

Trauma education, not unlike that found in CISD, is increasingly common as a treatment intervention for populations around the world. However, empirical

investigations of these interventions are rare. Of the few studies available, the majority describe treatments for immigrants or refugees having already arrived in a modern, industrial setting. A recent review paper found only eight PTSD treatment studies of adult refugee populations. Three of these were essentially case studies and most of the others lacked comparison groups and had a small sample size (for a full review see Nicholl & Thompson, 2004). For instance, one study treated 20 Bosnian refugees with Testimony Psychotherapy, an approach that incorporates substantial elements of imaginal exposure techniques (Weine et al., 1998). Significant decreases in PTSD and other symptom types could not be attributed to the specific intervention given the absence of a comparison group. The inclusion of PTSD psychoeducation is not specified. Another study provided an analysis of CBT treatment compared to exposure treatment alone for a group of traumatized refugees (n = 16) (Paunovic & Ost, 2001). Both conditions included some normalization of PTSD symptoms, though whether this included explicit psychoeducation was not specified.

Two treatment studies with child refugees did explicitly include PTSD psychoeducation in their intervention. Kosovar youth (n = 18) recently arrived in Denmark were treated with a short trauma psychoeducational intervention (Staaehr, 2001). PTSD symptoms as measured on the IES (Impact of Events Scale) indicated significant decreases in symptoms. However, this study had no comparison groups and could not account for the possibility of maturation effects or other factors. Another study in Britain with children (n = 26) from diverse war-ravaged countries assessed the effect of an intervention using *Children and War: Teaching Recovery Techniques Manual* (Smith et al., 2000), the "primary purpose of which is to educate children about the

symptoms of PTSD and to teach them appropriate coping strategies" (Ehntholt, Smith, & Yule, 2005, p.237). Results indicated a significant reduction in PTSD symptoms post-intervention compared to a waitlist control. However, these gains were not maintained at two months post-intervention.

Theoretically, social influences such as a power differential, social desirability, and secondary gain, should be diminished in these immigrant populations as immigrants are likely receiving basic, if insufficient, social support and have begun a process of acculturation. In summary, the literature on treatment for PTSD for recent immigrants or refugees in pre-industrial settings is limited, often has small samples, and if treatment includes PTSD psychoeducation, its effect has not been specifically assessed.

A few studies report on components of humanitarian interventions with samples still in their home country. Trauma treatment and education programs have been developed for Eastern Europe (Bosnia and Croatia) and different regions of Africa (Miller & Rasco, 2004). Given the challenges of such an environment and the meager budget on which many of these programs are administered, there is a paucity of outcome studies in existence. Even developers of recent innovative interventions for refugees acknowledge the legitimate difficulty and the unfortunate dearth of evaluative efforts (Hubbard & Miller, 2004). Of those that do exist, some have opted for anecdotal summaries or more qualitative methods, whereas others have taken more of an empirical approach. Fewer still have been published in peer-reviewed journals. However, a few randomized controlled trials in pre-industrial settings exist that investigate the effects of PTSD-oriented treatment frameworks on traumatic stress symptoms.

Sudanese refugees (n = 43) in Northern Uganda were randomly assigned to either one session of PTSD psychoeducation, 4 sessions of psychoeducation plus supportive counseling (SC), or four sessions of psychoeducation plus narrative exposure therapy (NET; Neuner, Schauer, Klaschik, Karunakara, & Elbert, 2004). NET was associated with significant decreases in PTSD symptoms (measured by the Posttraumatic Stress Diagnostic Scale, Foa et al., 1997) at post-intervention (d = .6) and at one-year follow up (d = 1.6). No significant changes were associated with SC, and psychoeducation was associated with significant increases in PTSD symptoms at post intervention (d = -.5) and one-year follow up (d = -.9). Given the dramatic differences between NET and psychoeducation, it would be valuable to know whether the presence of psychoeducation in the NET treatment condition enhanced or diminished the therapeutic effect. Again, the research design does not fully permit an interpretation of the specific effect of PTSD psychoeducation, though the increase in symptomatology for those in the control/psychoeducation condition implicates a negative effect.

Five years after the Rwandan genocide, Staub, Pearlman, Gubin, and Hagengimana (2005) designed and evaluated an intervention for survivors. The intervention took the form of a nine-day training of workshop facilitators and included psychoeducational lectures on PTSD, but also offered substantial opportunity for participants to understand the causes of genocide, to have small and large group discussions, and to share painful memories with other participants. Traumatic experiences, psychological symptoms, and orientation toward reconciliation were assessed in the participants of the subsequent workshops, not in the facilitators who were in direct receipt of the training. An adapted version of the HTQ (Mollica et al., 1992)

was used to assess trauma history and symptoms. Controlling for Time 1 symptoms and trauma history, results showed that two months after the intervention, trauma symptoms (a combination of PTSD, traumatic grief, self-perceived functioning, Rwanda-specific trauma symptoms) decreased significantly more in the intervention condition than in either of the other two (traditional treatment, wait list control). This study offers encouraging results in support of the intended effects of the intervention. However, their research design does not allow for evidence as to the change in PTSD-specific symptoms. More importantly, as the workshops were designed by the newly trained facilitators, it is impossible to know which of the training components (psychoeducation, exposure to experience through sharing, etc.) were present in or responsible for the observed effects.

The majority of the treatment interventions that include PTSD psychoeducation have not been empirically studied or subsequently published (D. Summerfield, personal communication, September 7, 2006). The majority of the limited literature on PTSD treatment for non-Westerners describes refugees living in industrialized nations. A few of these make explicit reference to treatments that include PTSD psychoeducation. There is some suggestion that these studies have led to beneficial effects, but in most cases, the research designs preclude definitive conclusions. Fewer still describe treatment efforts for samples still in their pre-industrial home country. One study suggests that psychoeducation, though utilized as a comparison to treatment group, was associated with increases in PTSD symptomatology (Neurer et al., 2004), and another demonstrated beneficial outcomes from a treatment that included psychoeducation as well as other treatment approaches (Staub et al., 2005). The specific effect of psychoeducation could

not be identified given the specific treatment design. At this point in time, there is little empirical data by which to gauge whether PTSD psychoeducation for pre-industrial populations is beneficial. However, the empirical support for the influences of social desirability, power differentials, and secondary gain, the evidence for iatrogenic treatment effects, particularly with PTSD-focused interventions such as CISD, and our limited understanding of cultural differences in the manifestation of traumatic stress, demand a careful consideration of how pre-industrial populations may respond to psychoeducation or trauma discourse developed in industrial cultures.

The effect of prior exposure to the trauma discourse of industrialized nations

The literature reviewed above raises the possibility that PTSD psychoeducation or other forms of exposure to discourse on trauma, even when intended to normalize and relieve distress, may possibly diminish the otherwise beneficial effects from associated treatment components. Possible sources of such exposure include psychoeducation in the form of workshops, radio programming, and reading materials. Specifically, the effect of social desirability, a power imbalance, and secondary gain on symptom presentation may be mediated by local familiarity with modern models of traumatic stress. The influences of such social factors have not been directly investigated and remain theoretical and speculative. However, a recent study reported a significant association between prior exposure to Western trauma discourse and the presentation of symptom presentation (Yeomans, Herbert, & Forman, in press). Indigent Burundians were asked to report prior encounters with modern-world sources of psychoeducational information as well as to endorse both PTSD and more general symptoms of anxiety, depression, and somatization. Participation in trauma education workshops and trauma-related reading

significantly predicted PTSD symptoms when controlling for event history. Whereas one interpretation of this finding is that those who had particular symptoms sought out information about those symptoms, a low correlation between exposure to trauma models and trauma event history (r = .19, *ns*) makes such an explanation unlikely. Indeed, as the effects of the above social factors are contingent upon the presence of exposure to trauma models from industrialized cultures and because such exposure is more easily quantified than the other more abstract social factors, the construct of exposure to such trauma discourse is a critical variable in the investigation of the influences of traumatic stress symptom presentation.

While theoretical perspectives have been offered (see Kagee & del Soto, 2003), to date, only Yeomans et al. (2008) explicitly investigated the relationship between psychological symptoms and prior exposure to trauma discourse from industrialized settings. None of the studies of PTSD reviewed above attempted to assess to what degree their subjects had a prior history of exposure to modern models of the psychological response to traumatic events. Humanitarian aid, mental health and medical clinics, radio programs, and psychoeducational and conflict resolution programs offered by NGO's are all possible sources of information as to how the reactions to traumatic events are understood by the outside world. Prior exposure to trauma discourse from industrialized settings and its concomitant expectations about protracted symptoms may increase the likelihood that symptoms will persist and be reported (Kagee & Del Soto, 2003). Studies of recent immigrant or of refugee populations in the U.S. that seek to assess the possible universal applicability of PTSD are confounded by the fact that their subjects are under a process of acculturation from the time they arrive in the U.S., if not sooner. The same

influences must apply to those who have had varying degrees of exposure to industrialized cultural perspectives within the provision of services while still at home. For these reasons, this study drew from a sample of rural, predominantly subsistence farmers in Burundi with little or only nascent exposure to psychological constructs born out of the industrialized regions of the world. To better appreciate this sample's cultural milieu, a brief description of the population and the recent conflict is provided.

Burundian context and history

Burundi is home to over 7 million people in a fertile but violence-wracked region of East Central Africa (AFSC, 2001). Also known as the Great Lakes Region of Africa, Burundi is bordered by Rwanda, Congo, and Tanzania. Burundi has suffered much of the violence of its sister country, Rwanda, but at a fraction of the pace. After its independence in 1962, Burundi suffered a discontinuous series of violent years particularly in 1965, 1972, 1988, and 1991 when the Hutu-Tutsi ethnic conflict became embroiled and was retriggered (AFSC, 2001). Remnant elements of the latent civil war that began in 1993 have continued to destabilize regions of the country until recently. Burundi's two primary ethnic groups, Hutu and Tutsi, have been socially polarized at least since the arrival of colonial powers (German in 1895, Belgian in 1918) (Lemarchand, 1995). Peace has gradually returned to the region, and over the summer of 2005, a three-year transitional government process was completed and a new parliament and president were elected.

Both sides suffered terribly throughout the war. Studies estimate that well over 200,000 people have died since the beginning of the civil war in 1993 (AFSC, 2001). As the two ethnicities have lived interwoven into the same communities, much of the killing

took place neighbor upon neighbor and threw entire communities into disarray. Those who survived lost their homes and either fled the country as refugees or have been displaced internally and now reside in IDP camps. Tutsis are the primary camp residents while Hutus live in the surrounding community. While both groups live in proximity to each other, the community is far from integrated and the last thirty years of reciprocal retribution makes social polarization nearly intractable.

Given the country's limited resources, the government has welcomed the assistance of various international agencies. Though many churches and non-governmental organizations (NGO) provide Burundi with programs ranging from economic development to social services, the international attention that Burundi receives pales in comparison to the resources directed at Rwanda after it burst into the international spotlight during the 1994 genocide. Despite a modest international presence, Burundian culture in rural areas remains largely traditional due to relatively little exposure to the West.

Foreign and modern notions of traumatization are increasingly common in Burundi. Smaller NGO's, such as HROC, Transcultural Psychosocial Organization, and Search for Common Ground offer workshops, training, or individual counseling. Larger NGO's, such as World Vision and Catholic Relief Services, have similarly begun to add psychosocial and trauma counseling components to their provision of humanitarian assistance. Some of the organizations have also used radio as a medium for psychoeducation on trauma. In a few isolated instances, Burundians have encountered trauma discourse from industrialized culture within the context of research efforts. Yeomans et al. (2008) found that from a sample from north central Burundi, 12.8% had

participated in trauma psychoeducational workshops, 29.1% had read trauma psychoeducational materials, and 77.6% had listened to trauma psychoeducation on the radio.

Statement of purpose of the present study

Large-scale violence continues to plague many impoverished regions of the world. As humanitarian organizations, faith-based organizations, and other NGO's formulate material and psychological responses to these tragedies, the identification of the nature of posttraumatic stress reactions in these settings has become increasingly critical. One dimension of such research is the evaluation of the influence of other variables on the reporting of posttraumatic stress symptoms. Whereas some argue that the PTSD model reflects a predominantly biological and therefore universal response, others assert that it is largely culturally determined and even subject to suggestion and secondary incentives. The latter perspective argues that the nature and severity of PTSD symptoms are at least partly shaped by the degree to which people are already acculturated to modern, industrialized culture.

The literature includes pointed criticism of "tourist research" in which foreign researchers make brief forays in exotic regions to conduct research on questions that sometimes have little relevance to the lives of the participants. In cases where the research is topically relevant, participants are often not made aware of the findings nor benefit from their contribution as participants. This practice is particularly unethical when the needs of these populations are so immense and the study only yields benefit to the research team in the form of a publication or degree.

While this project could certainly be subject to some of these criticisms, it should be clear that this study was designed to function as "participatory research" in that it included dimensions of research and service, the latter of which aimed to benefit a significantly underserved and underrepresented population (Petras & Porpora, 1993). The impetus for this study was in part a request by the African Great Lakes Initiative's Healing and Reconciling our Communities project (AGLI/HROC) for a program outcome evaluation. The primary hypotheses were developed from a lengthy dialogue among staff members. The study design was similarly developed in consultation with people, both Burundian and America, who were deeply invested in the outcomes of their efforts to ameliorate the suffering in Burundi. Ultimately, this proposal was structured as a treatment outcome study, the results of which will support program improvement and, if sufficiently robust, additional financial support for these programs.

The research took place in a region of Burundi where people still live largely traditional, subsistence agrarian lives, and applied an experimental design to assess whether PTSD psychoeducation attenuates or enhances the possibly beneficial effects of local trauma and reconciliation workshop interventions. The study included three conditions (workshop with PTSD psychoeducation, workshop without PTSD psychoeducation, and a waitlist control). The project's primary aims were as follows:

- To evaluate the effects of a trauma healing and reconciliation program in a pre-industrialized setting.
- To evaluate the specific effects of a PTSD psychoeducation component with a trauma healing and reconciliation program.

- To examine the possibility of a suggestive effect through emphasis of PTSD symptoms from one specific symptom cluster within a psychoeducational intervention

The project's secondary aims were as follows:

- To identify trauma-related symptoms and level of functioning among highly traumatized rural Burundians.
- To investigate the relationship of prior trauma discourse exposure (TDE) and symptom presentation.

On the basis of the evidence for possible suggestive effects, the cross-cultural social influences of social desirability, power differentials, and secondary gain, as well as preliminary research indicating a relationship between exposure to trauma models and the nature and severity of PTSD symptoms, the following research questions and associated hypotheses were offered.

Primary Hypotheses

Question 1: Do trauma healing group interventions in Burundi reduce levels of anxiety, depression, and somatization?

Prediction 1: Pre-to-post intervention PTSD symptoms, symptoms of depression and anxiety, and level of functioning were predicted to show significantly greater decreases in each of the two workshop conditions (psychoeducation and no psychoeducation) than in the waitlist control condition. The effect of the workshop intervention on PTSD symptoms were hypothesized to depend on the presence of PTSD psychoeducation, such that pre-to-post intervention PTSD symptoms and level of

functioning would show greater decreases among participants in the workshops without psychoeducation than among participants in the psychoeducation workshop condition.

Question 2: Does the emphasis of a few select PTSD symptoms in a trauma psychoeducational workshop in Burundi increase the frequency of those symptoms?

Prediction 2: At post-treatment, the relative frequency of each of two different (one in each psychoeducational workshop) pre-selected for emphasis PTSD symptom clusters were predicted to be greater (compared to the two other PTSD symptom clusters) in the psychoeducation workshop condition in which they were emphasized than in the workshop without psychoeducation (from the same community) in which they were not.

Secondary Hypotheses

Question 3: Prior to workshop participation, is degree of prior exposure to trauma discourse from industrialized cultures positively associated with severity of PTSD symptoms?

Prediction 3: It was predicted that prior to workshop participation, exposure to trauma discourse from industrialized cultures would be positively related to severity of PTSD symptoms.

Question 4: Prior to workshop participation, is degree of exposure to trauma discourse from industrialized cultures more positively correlated with PTSD symptoms or with more general symptoms (e.g., somatic complaints, anxiety, and depression)?

Prediction 4: Prior to workshop participation, exposure to trauma discourse from industrialized cultures was expected to be more positively correlated with PTSD symptoms than with non-PTSD-specific symptoms.

Question 5: Does the effect of psychoeducation on symptoms depend on TDE?

Prediction 5: The effect of psychoeducation on PTSD symptoms after the intervention was hypothesized to depend on prior exposure to TDE, such that those participants with prior TDE would experience a lesser reduction of PTSD symptoms post-intervention than would those with no prior TDE.

CHAPTER 2: METHODS

Design

The study used a 3 X 2 mixed factorial design, with a between-subjects factor of condition (workshop with psychoeducation (PG), workshop with no psychoeducation (NPG), and waitlist control (WLC)) and a within subjects factor of time (baseline and after workshops). The primary independent variables were condition and time, and the dependent variables were measures of psychological symptoms. The original plan to emphasize a different symptom cluster within each workshop with psychoeducation proved to be infeasible and was dropped. Trauma discourse exposure (TDE) served as a continuous independent variable for secondary analyses utilizing multiple regressions to examine both main effects and interactions with condition.

Participants

Participants were recruited through the Healing and Reconciling Our Communities (HROC), a program sponsored by the African Great Lakes Initiative of the Friends Peace Teams (AGLI-FPT). HROC facilitates periodic workshops on trauma counseling for those community members who have experienced traumatic events within the last ten years. In the summer of 2007 HROC offered workshops in the communities within and peripheral to

the communities of Nyakibingo and Bugendana and their associated IDP camps in rural Burundi. Workshop participants were recruited to participate in an interview for the purposes of this research project and for a program evaluation. One hundred and twenty participants were contacted and invited to be interviewed prior to beginning the workshop. These 120 participants were referred to the workshop through a network of church elders who identified them with hopes that their distress would be ameliorated by the workshop, so there is no indication that the sample was selected for being highly susceptible to the influences of Western trauma models.

Demographic data revealed that among the 124 participants at baseline, 55 (44.4%) were female and 69 (55.6%) were male. The mean age was 38.6 years (*SD* = 12.8). Only 5% of the sample had completed more than six years of education, and mean years of education was 3.7 years (*SD* = 2.6). Among the portion of the sample that lived in the Internally Displaced Persons (IDP) camp (48.3%), the mean length of residence was 12.3 years (*SD* = 3.2). As explicit solicitation of ethnicity is considered inappropriate and divisive, interviewers were asked to assess the participants' ethnicity based on the details of the history they provided and based on their current living situation. The sample was closely balanced in terms of ethnicity with 65 Hutus (52.4%) and 59 Tutsi (47.6%). Most participants had been directly victimized by violence during or since the revolution of 1993. However, a few were returnees from other countries (Rwanda, Tanzania) who fled the conflict and had recently repatriated. Participants received reimbursement for transportation expenses.

Participants came from one of two villages in rural northeastern Burundi: Bugendana or Nyakibingo. Baseline analyses were checked for significant differences

between participants from each of these communities. Subsamples from each community did not vary in terms of age, number of events experienced. However, participants from Bugendana had 1.6 years more of education (t (121) = – 3.54, p = .001, - CI 95%: -2.4<u<-.71), whereas participants from Nyakibingo had greater distress: a mean difference of .26 on the HTQ (t (121) = 2.8, p =.006, CI 95%:.08<u<.45), and a mean difference of .40 on the HSCL (t (121) = 3.85, p <.001, CI 95%: .19<u<.60).

Measures

Anxiety and depression. The Hopkins Symptom Checklist-25 (HSCL-25; Hesbacher, Rickels, & Morris, 1980) was designed as a self-report measure and uses a 4-point Likert scale across an anxiety subscale (10 items) and a depression subscale (15 items). By adding the 12-item somatic subscale of the HSCL-58, the HSCL-25 was used to assess a broad range of symptoms of distress (Terheggen et al., 2001). The HSCL-25 total score can be used universally as a global measure of emotional distress (Mollica et al., 1987). When matched to diagnoses based on clinical interview, the HSCL had a sensitivity of .88 and specificity of .73 (Mollica et al., 1987), and internal reliability of .86-.95 across multiple languages (Kleijn, 2001). (See Appendix A).

Posttraumatic stress and event history. The Harvard Trauma Questionnaire Part IV (HTQ; Mollica, Caspi-Yavin, Bollini & Truong, 1992) was designed as a self-report measure of PTSD symptoms. The HTQ-IV symptom list uses a 4-point Likert scale and includes sixteen items that reflect the standard PTSD symptoms as well as fourteen additional items (HTQ-b) that were added when the measure was culturally validated in a Cambodian refugee sample. Mollica et al. (1992) report an interrater reliability of .93, internal consistency of .90, and test-retest reliability of .89 for the HTQ. The HTQ has been

translated for a number of samples and consistently yields sufficient reliability (internal reliability of .74-.89) (Kleijn et al., 2001) (see Appendix B).

Both of these measures have proven to be culturally sensitive with samples around the world and have demonstrated sufficient validity and reliability (Fox & Tang, 2000). Although there is little to no documented use of these measures with a Burundian sample, we recently employed these measures in a study that examined the relationship between symptoms and prior exposure to trauma models from industrialized countries (Yeomans et al., in press). In this study the two subscales of the HSCL-25 had an internal reliability of .88 and .90, and the HTQ-IV had an internal reliability of .90. The measures were checked for content and semantic equivalence by the three-person Burundian advisory team (Flaherty, 1988).

Functional assessment. As discussed in the introduction, assessment of function is often overlooked in cross-cultural studies of PTSD (Kagee & Naidoo, 2004). A measure of functional assessment was used based on the methods and results of Bolton and Tang (2002), who developed a new technique for cross-cultural and gender-specific functional assessment using samples in Uganda (n = 587) and Rwanda (n = 368). Bolton and Tang used a convenience sample of 40 people from each country to do free listing in response to three questions: 1) what are the tasks that men/women must do regularly to care for themselves?; 2) what are the tasks that men/women must do regularly to care for their family?: 3) what are the tasks that men/women must do regularly to care for their community? The top nine responses were then inserted into separate measures for each gender. Reliability was then assessed using samples from both countries (Uganda: n = 587; Rwanda: n = 368). Cronbach's alpha for male and female questionnaires were

respectively .81 and .82 in Rwanda and .89 and .88 in Uganda. Whereas the primary purpose of Bolton and Tang's paper was to propose a new method for measuring functioning, their samples and the Burundian sample of the proposed study are highly similar (rural, impoverished, Bantu linguistic roots, mostly subsistence agrarians), such that their measure could be used in the present study. Indeed, Rwanda and Burundi in particular were once considered the same region and are culturally highly similar. Bolton and Tang discuss the observed commonalities between their two samples and predict, with appropriate caution, the emergence of a measure that could be used in assess function in African rural communities. Though the measure is not yet well established, it is the preferred choice for functional assessment for purposes of this study (appendix E).

Demographics. A short demographic measure solicited age, gender, and employment (see Appendix F).

Translation

All instruments had been translated into Kirundi and then backtranslated as a result of having been used in a prior study (Yeomans et al., in press). The first step was for bilingual Burundians living in the United States to translate the measures into Kirundi. The second step was for bilingual Burundians living in Burundi to "backtranslate" the measures without having seen the original documents. The two English versions were then compared and adjustments to the translation were made in a dynamic process between the primary investigator and three Burundians assisting with the research. Prior to the use of the measures, the structure of the intended interview was reviewed with three Burundians to verify that it was comprehensible to local people (Terheggen et al., 2001).

Procedure

Workshops were offered in two communities in north central Burundi: Bugendana and Nyakibingo. In each community, participants were randomized to one of the three conditions (workshop with psychoeducation (PG), workshop without psychoeducation (NPG), waitlist control (WLC)). Five workshop facilitators comprised a team for a workshop. All of the workshops were led by experienced Burundian HROC trainers with close ties to the local community. Perfect balance of facilitators across location and condition as planned was compromised by logistics and scheduling. Table 2 presents the flow of facilitators across conditions and locations. Essentially, five facilitators did their second workshop in a different community and different location, five others worked across conditions but did both workshops in the same condition, and one facilitator who was serving as a coordinator worked in all four workshops. All facilitators did one workshop in each condition, with the exception of the coordinator (AN) who did two workshops in each condition. The waitlist control condition received the workshops after the second assessment period (Table 1).

Table 1

Study conditions by facilitators

	Conditions	
	Workshops	
Community	Psychoeducation (PG)	No psychoeducation (NPG)
Village A	Facilitator Team 1	Facilitator Team 2
Village B	Facilitator Team 2	Facilitator Team 1

Table 2

Balance of workshop facilitators across location and condition

	FB	JNy	PN	JNg	AV	AN	GB	MS	SG	SK	SN
Village A, Condition A	X	X	X	X	X	X					
Village A, Condition B		X		X	X	X	X	X			
Village B, Condition A						X	X	X	X	X	X
Village B, Condition B	X		X			X			X	X	X

Interviews were conducted six weeks before the beginning of the intervention and two weeks after its end. A discussion of the voluntary and confidential nature of participation preceded the interview. Most participants were not fully literate, so measures were administered verbally. Each participant completed the event history, the symptom measures, the Trauma Discourse Exposure (TDE) interview, and a short sociodemographic form at baseline. Each participant completed the symptom measures again approximately three months later after the completion of the workshop cycle. Baseline interviews were conducted by four Burundian staff of the African Great Lakes Initiative (AGLI). Two of the four interviewers returned to complete the post-test workshops. Interviewers included two men and two women and both ethnicities were represented within the team (Pernice, 1994). Participants were told that the purpose of the interview was to collect data for research on health concerns and past experiences (Terheggen et al., 2001) as well as to assess the outcomes of the workshop. The principal investigator was not present in the interviews but remained nearby so as to consult with the staff when there were questions or concerns. The Likert scale was demonstrated

visually by showing pictures of glasses containing varying amounts of water (Terheggen et al., 2001).

Intervention

Workshop with psychoeducation (PG). The intervention included two components implemented five to six weeks apart. Six groups of 20 participants gathered for three days. One month later each workshop group reconvened for a follow-up day in which major workshop components were reinforced. (Two months later community leaders and the general public were invited to join all workshop groups from that community as they gather together for a day designed to reinforce the themes of the program. However, this took place after the administration of the post-test measures.) A full summary of the intervention contents is provided in Appendix G.

The first day of the workshop with psychoeducation included introductions, community-building exercises aimed at encouraging people to trust the other participants, and a presentation on the causes and symptoms of PTSD (see Appendix G). This presentation included discussion of each of the three PTSD symptom clusters and the 17 specific symptoms of PTSD. A substantial portion of the day was devoted to ensuring that people were increasingly comfortable with each other and with the objectives of the workshop. For instance, after more formal introductions and an overview of the workshops, participants were asked to interview each other in pairs. They then were required to form groups of four and summarize the information they had learned about their partner to the other two people they had joined. After a break, the facilitator introduced the concept of trauma. First, sufficient time was devoted to a process in which the group discussed the meaning of the word and chose an equivalent

Kirundi word that best captured that meaning. The group participated in a brainstorm of possible causes of trauma before the facilitator presented the symptoms of PTSD. The morning end with an opportunity to discuss in small groups what participants had learned. The afternoon session began with an activity in which each participant had to choose an adjective that has positive valence and begins with the same phoneme as their given name (e.g. “Admirable Adrien”). These names were then used throughout the workshop to invoke playfulness, informality, and to reinforce the theme of emphasizing the positive attributes in each person. Symptoms and consequences of trauma were again reviewed. First in small, and then big groups, participants shared how they have been affected by traumatic events they had experienced before concluding for the day.

On the following day, the focus turned to the topics of loss and grief as people were asked to share more substantial experiences. The Gestalt Empty Chair Exercise encouraged people to speak to an empty chair in front of the group as if someone who had hurt them was sitting there. The facilitator then introduced the concepts of loss, grief, and mourning, and as with “trauma,” encouraged the group to clarify the meaning of these words in the local language. Participants returned to small groups in which they then each told a story of personal loss. Some of these stories were then shared with the larger group if an individual chose to do so. After a break, the facilitator introduced Kubler-Ross’s (1970) Stages of Grief: denial, anger, bargaining, depression, and acceptance. Participants reacted to and discussed the model with reference to their own experience. Participants were invited to generate ideas for how someone advances through these stages. With the intention of fostering participant motivation to move

through the stages of grief, the facilitator led a visioning exercise in which participants imagined how their lives would be different.

After a song and prayer, the afternoon opened with an exercise aimed at fostering trust and a sense of community. Each participant was asked to speak about a person, place, or thing that they valued very deeply. The focus of the afternoon then shifted to anger. The facilitator gave a presentation on different types of anger according to their different sources and asked the group to draw on their own experience for ideas as to how to manage anger. After a break, these management strategies were practiced and further investigated in role played scenarios of the participants' design. In addition to fostering practical skills, the exercise also encouraged people to be more expressive of their anger. Before closing for the day, the participants learned deep breathing techniques and incorporated them into a guided imagery relaxation exercise.

On the last day, exercises and discussions focused on understanding how trust is formed and broken and how the seeds of violence are sewn. An opening exercise served to reinforce the recollection of the positive attributes of one's offenders and the facilitator discussed this ability as an essential component for moving toward reconciliation. Participants were then put into pairs and given one blindfold. Each pair alternately blindfolded the other and silently guided them on a walk through the classroom and around the exterior of the building. A discussion followed on what people experienced and why it was difficult to trust the other person. Using a diagram of two trees, the facilitator led a discussion to identify the causes ("the roots") and the results ("the fruits") of trust and mistrust. Participants began to see the cyclical nature of this relationship as well as to develop ideas as to how they can interrupt this cycle. The

morning closed with a brainstorm of means by which participants can enhance the trust in their community. The afternoon commenced with the Acceptance Circle exercise and Question and Answer period in which participants raised new questions or returned to topics that required additional attention. The workshop then ended with solicitation of evaluative comments and a closing involving song and prayer.

Whereas HROC included a substantial component on traumatic stress symptoms, the program was strongly oriented to using the communal experiences (e.g. sharing personal histories in workshops, community-wide closing day) to meet their stated objectives of decreasing distress and increasing reconciliation. Such an approach is supported by Bracken et al (2002) who observe that in collectivist cultures much of the healing takes place in the relationships of the client with his surrounding community members.

Workshop with no psychoeducation (NPG). The active workshops condition with no psychoeducation varied only in the absence of the introduction of psychoeducational models of trauma including discussions of PTSD symptoms. Instead, an exercise was conducted that aimed to further trust and communication in group members by having them answer particular questions in pairs. Therefore, both workshop conditions had an equal total length of intervention. Whereas, didactic presentation of PTSD symptoms only lasted 45 minutes, participants had subsequent opportunities (approximately 75 minutes) to further discuss and reinforce these concepts with each other during the workshop. Participants shared and discussed their own perspectives as to how they were affected by their traumatic experiences in both workshop conditions.

Waitlist control (WLC). Two additional workshop groups were identified as waitlist controls. These participants were enrolled in the standard workshop but informed that it would not start until after the termination of the workshop cycle that was about to begin (approximately three months later).

Symptom cluster emphasis. This research proposal included the plan to train the facilitators to vary the emphasis of a specific PTSD symptom cluster within the intervention, so as to better specify the relationship between intervention content and post-test symptoms. However, once arrived in Burundi, such a plan was deemed infeasible. This specific component was dropped in the service of ensuring sufficient time to prepare the facilitators on how to appropriately provide the intervention for each condition.

Power Analysis

A power analysis was conducted before proceeding with data collection to estimate a sample size necessary for sufficient power. Power was calculated based on computing the ANCOVA for the primary hypotheses. An alpha of .05, an *n* of 117 (those who completed pre-test, post-test and participated in their assigned intervention), and a medium effect size of .25 per Cohen's conventions resulted in a calculated power of .67. Given the possibility of insufficient power, all analyses included estimations of effect sizes.

CHAPTER 3: RESULTS

Randomization check

One hundred and twenty participants were randomized to one of three conditions, intervention with PTSD psychoeducation (PG), intervention without PTSD psychoeducation (NPG), and a wait-list control (WLC). Four participants who did not

show up for their intervention who had been in one of the active conditions were moved to the wait-list control. Thus, there were 39 participants in PG, 39 in NPG, and 46 in WLC. Randomization was successful in that there were no significant differences between these three groups across age, gender, ethnicity, symptoms (HTQ and HSCL), and traumatic events experienced (Table 3).

Table 3

Randomization check

	F	*χ2*	*df*	*p*
HTQ	1.55		122	.22
HSCL	.45		122	.64
Age	.53		123	.59
Gender		.08	2	.96
Ethnicity		.32	2	.85
Events experienced	.31		123	.74

Note. HTQ = Harvard Trauma Questionnaire; HSCL = Hopkins Symptom Checklist

Treatment integrity

Facilitators completed a report after each workshop in reference to the integrity of the condition. In one workshop without trauma education, one participant proposed the concept of trauma during a brainstorm about the consequences of the war. The facilitator did not comment directly and continued with the brainstorm. In the other workshop without trauma education, a participant stated “trauma is the problems I have passed through in my life.” The facilitators did not respond to that specific term and continued with the

workshop. Another said that “trauma is a consequence of war.” Again, the facilitators continued without a direct response. Otherwise, each facilitator reported that the workshop components were consistent as planned and true to treatment condition.

One hundred and twenty-four participants attended their appointments for pre-test interview and consented to participate in the study. Thirty-nine of 40 participated in the PG intervention and 39 of 40 participated in the NPG intervention (An additional 40 participants were designated as wait-list control.). Of the seven who did not complete post-tests, two were from the PG condition, three were from the NPG condition, and two were from the WLC.

Event history

All participants were asked to endorse items from a list of nineteen possible traumatic events as listed in the HTQ- Part I (Mollica et al., 1992). The frequencies with which participants endorsed each item as an event they had experienced, witnessed, heard about, or had no exposure to are listed in Table 4. Across these 19 items, the mean number of types of events experienced was 9.9 (*SD* = 2.1) and the mean number of types of events experienced, witnessed, or heard about was 15.4 (*SD* = 3.2). Though cultural differences make it difficult to speculate as to which events were more definitive Criterion A events, it is arguable that some of the items would not necessarily qualify as Criterion A events. However, even after removing these more ambiguous Criterion A events (lack of shelter, lack of food and water, combat situation, forced to hide, confined to indoors because of danger, imprisonment), the sample still demonstrated a significant trauma history. For instance, 91.7% of the sample endorsed “narrowly escaping death” and 96.7% endorsed “unnatural death of a family member.”

Table 4

Frequency and types of events endorsed (HTQ – Part I).

	Not experienced	Heard about	Witnessed	Experienced
Lack of shelter	-	1.7%	-	90.4%
Lack of food and water	-	2.1%	.4%	95.0%
Ill health and no medical care	-	1.3%	7.5%	86.2%
Loss of personal property	3.8%	5.0%	9.2%	81.9%
Combat situation	.4%	.4%	.4%	98.8%
Narrowly escaping death	-	2.1%	6.3%	91.7%
Rape	23.8%	45.8%	25.0%	5.4%
Sexual abuse/humiliation	27.1%	37.5%	25.4%	10.0%
Serious physical injury from combat	9.2%	10.4%	45.4%	35.0%
Forced to hide	.4%	1.7%	.8%	97.1%
Forced to hide among the dead	19.2%	29.6%	22.9%	27.5%
Betrayed and placed at risk of death	25.8%	12.9%	18.3%	41.7%
Confined to indoors because of danger	8.5%	6.4%	5.6%	79.5%
Forced to harm or kill a family member or friend	42.5%	23.3%	24.2%	9.2%
Forced to harm or kill a stranger	40.0%	24.2%	24.6%	10.0%
Disappearance/kidnapping of spouse	38.8%	19.6%	18.3%	8.8%
Disappearance/kidnapping of son or daughter	38.8%	25.4%	19.6%	3.8%
Unnatural death of family member	.4%	1.3%	.8%	96.7%
Imprisonment	20.8%	36.3%	18.3%	23.8%

Note. HTQ = Harvard Trauma Questionnaire.

Table 5

HSCL mean scores and norms

	Current Sample	Published Norms		
	Sample mean	Nonclinical mean	Psychiatric outpatient mean	Psychiatric inpatient mean
HSCL-25	2.02 (.63)	.33 (.37)	1.63 (.91) [a]	1.61 (1.07 [a]
Depression subscale	1.97 (.60)	.36 (.37)	1.79 (.94) [a]	1.74 (1.08) [a]
Anxiety subscale	2.22 (.74)	.30 (.37)	1.47 (.88) [a]	1.48 (1.05) [a]
Somatization subscale	2.29 (.69)		1.89[b]	

Note. Standard deviations in parentheses. HSCL = Hopkins Symptom Checklist.

[a] Derogatis, L. R. (1994). SCL-90-R: Administration, scoring and procedures manual third - edition. Minneapolis, MN: National Computer Systems, Inc.
[b] Derogatis et al., 1974

Baseline symptom report

Anxiety, depression, and somatization. Mean scores on the HSCL subscales (anxiety, depression, somatization) are reported in Table 5. Mean scores on the anxiety and depression subscale (HSCL-25) were 2.22 (.74) (Cronbach's $\alpha = .90$) and 1.97 (.60) (Cronbach's $\alpha = .90$), respectively. The mean somatization subscale (HSCL-58) score was 2.29 (.69). For the purposes of comparison, established norms for different groups are also included (Derogatis, 1994). Level of anxiety and somatization were markedly higher than found in a North American psychiatric inpatient sample. Depressive symptoms were likewise slightly higher than what would be found in a North American psychiatric inpatient sample. Mollica et al. (1987) established a critical cutoff of 1.75 on the HSCL-25 indicative of "substantial distress" in a non-Western southeastern Asian sample. In this

sample 60.8% exceeded this cutoff in the depression subscale and 69.7% in the anxiety subscale. Though Mollica et al.'s cut-off does not specifically apply to the somatization scale from the HSCL-90, it is noteworthy that 74.0% of the sample exceeded the cut-off in the somatization subscale. Thus, these nonspecific symptoms of anxiety, depression, and somatization generally exceeded inpatient psychiatric norms and were endorsed at considerably higher rates than were the PTSD symptoms.

Posttraumatic stress measure. The sample's mean score on the HTQ–Part IV was 2.14 (.55) (range from 1.0 – 3.6) (Cronbach's α =.84); when including Mollica et al.' s additional 14 items (HTQ-b) intended to capture more culturally variable traumatic stress reactions, *M*=1.97 (.53), range 1.0 – 3.6, (Cronbach's α = .92). Mollica et al. (1992) determined a cut-off of 2.5 for the HTQ–Part IV in a southeastern Asian sample as indicative of being symptomatic for PTSD. Only 23.7% (16.9% with the additional 14 items) of the sample exceeded the cut-off. Therefore despite the extensive trauma history endorsed by the sample, only a small percentage endorsed symptoms at a level indicative of being symptomatic for PTSD.

Trauma Discourse Exposure (TDE). The percent of participants who reported exposure to trauma education through workshops, radio and written material was 10.8.%, 61.7% and 11.7%, respectively. Some participants did not specify a value from a continuous scale in their response (e.g. "many times"). These responses were therefore thrown out, and as a result, analyses using radio exposure were limited to 19.6% of the sample. The mean number of workshop days was .23 (SD = .78) (range 0 – 5). The number of trauma-related radio programs heard was .99 (SD = 1.9) (range 0 – 12). The

Table 6

Responses to general industrialized cultural and specific TDE questions

1) Spoken with Westerners?	None: 93.5% 1-2 people: 6.5%
2) Have Western friends?	None: 95.2% 1-3: 4.8%
3) Watch TV	Never: 74.2% Monthly 6.5% Weekly: 1.6% Most days: 17.7%
4) Listen to radio	Never: 8.1% Most days: 28.2% Every Day: 63.7%
5) Read newspapers	Never: 79% Monthly: 4% Most days: 16.9%
6) Listen to radio about how people are affected by frightening or terrifying events:	Never: 79.1% > 4 times: 15.3% < 4 times: 5.6%
7) Read about frightening or terrifying events?	Never: 85.2% < 4 times: 6.5% > 4 times: 3.2%
8) Attended workshops on the effects of frightening or terrifying events?	Never: 87.1% < 3 days: 11.1% >3 days: 4.0%
9) Know what “Posttraumatic Stress Disorder” is?	No: 100%
9) Know what “trauma” is?	No: 96%
10) Know the word Ihahamuka?	No: 24.4% Yes: 75.6%

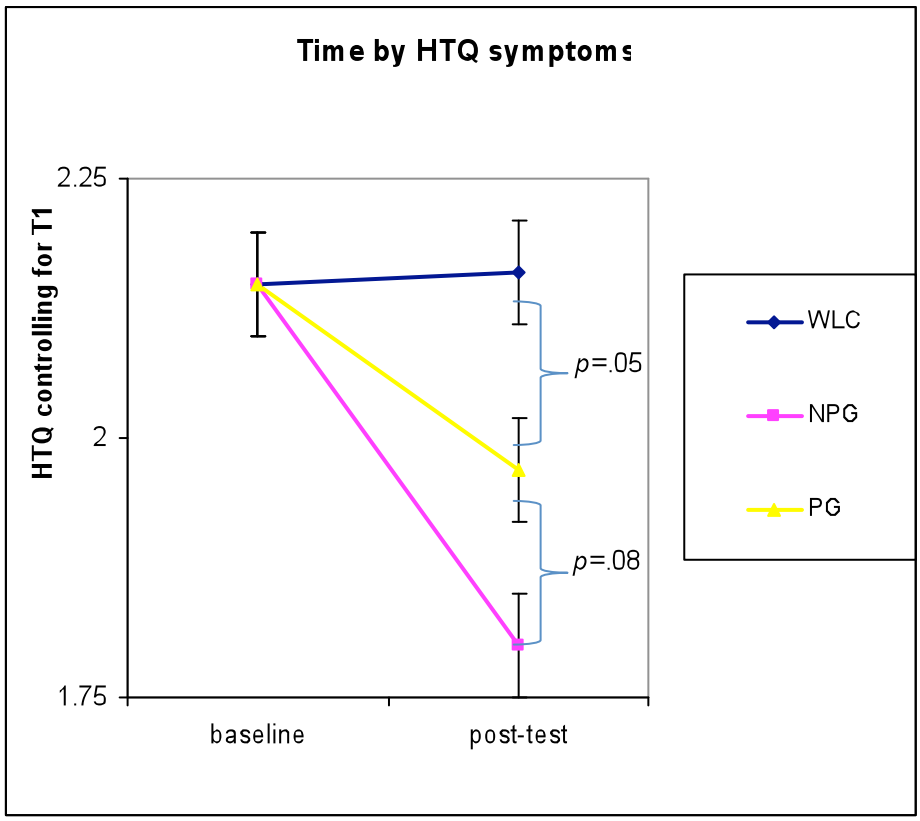
number of times reading trauma-related written material was .25 (SD = 1.3) (range 0 – 12). Not a single member of the full sample was familiar with the term 'Posttraumatic Stress Disorder" and only 4.6% were familiar with the word "trauma." Seventy-four percent were familiar with the term 'Ihahamuka,' a Rwandan word that has seen increased use and has been evolving to become increasingly synonymous with the word 'trauma.' Complete responses are summarized in Table 6.

Primary hypotheses

PTSD symptoms. An ANCOVA with pre-test scores as a covariate was conducted with condition as an IV and post-intervention HTQ scores as the dependent variable to assess whether the effect of treatment depended on condition. The covariate was found to be linearly related to the DV within all levels of the IV (condition x HTQ T1 interaction, ($F(2) = 2.9$, $p = .06$). Thus, our test of the assumption of equal slopes was nonsignificant, albeit narrowly, and the null hypothesis was supported. ANCOVA has been shown to be robust and valid even when assumptions are mildly violated. The ANCOVA indicated that there was a main effect (medium in magnitude) for condition ($F(2) = 6.87$, $p = .002$, partial $\eta_2 = .11$) while covarying out the effect of pre-HTQ scores. Contrasts showed that participants in the WLC had significantly greater HTQ scores than those in the PG ($b = .18$, $p = .05$, partial $\eta_2 = .03$). Participants in the NPG condition also reported significantly less severe HTQ symptoms than those in the WLC ($b = -.36$, $p = < .001$, partial $\eta_2 = .11$). Participants in the NPG showed a trend for having less severe HTQ symptoms than those in the PG ($b = -.18$, $p = .08$, partial $\eta_2 = .03$). Thus, treatment does appear to reduce symptoms given that after the intervention, people who received no treatment had greater traumatic stress symptoms than those receiving

the standard workshop. Additionally, people who received the NPG showed a trend for a significantly greater reduction of traumatic stress symptoms than those receiving the PG (Figure 1.). The effect of condition on HTQ symptoms did not depend on location (village 1 or 2) (F (5) = .86, p = .51).

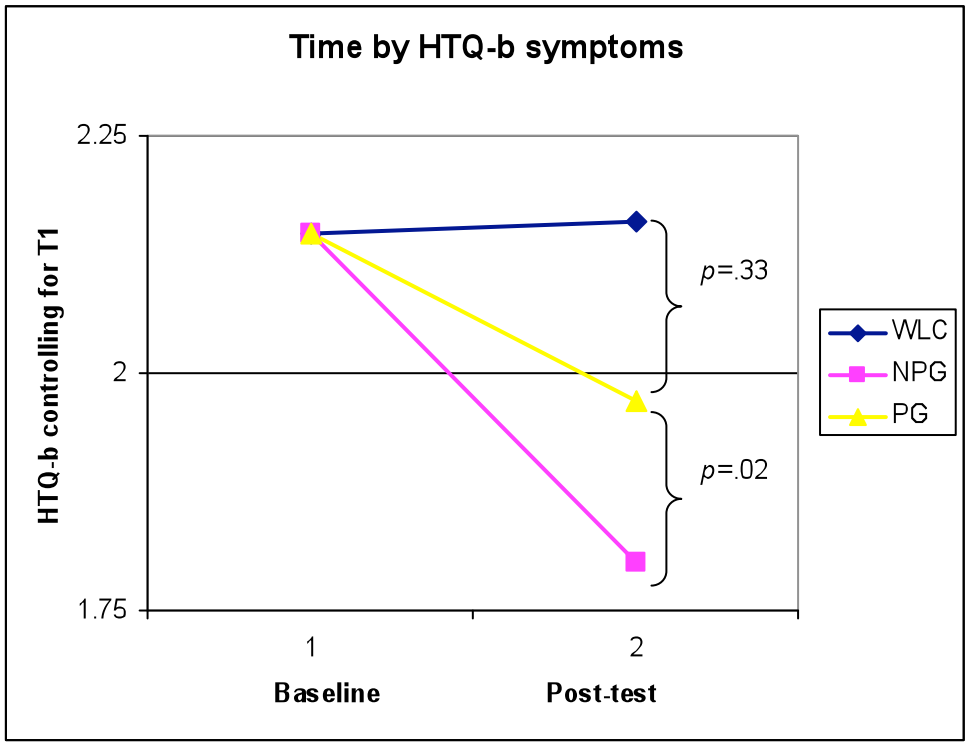
Figure 1.



The same analysis was considered using Mollica's broader definition of traumatic stress symptoms (all 30 items on the HTQ; HTQ-b). The covariate was found to be linearly related to the DV within all levels of the IV and the slopes of the regression line were equal (condition x HTQ-b T1 interaction, (F(2) = 2.4, p = .09). Thus, the test of the assumption of equal slopes was again not significant and the null hypothesis was supported. The

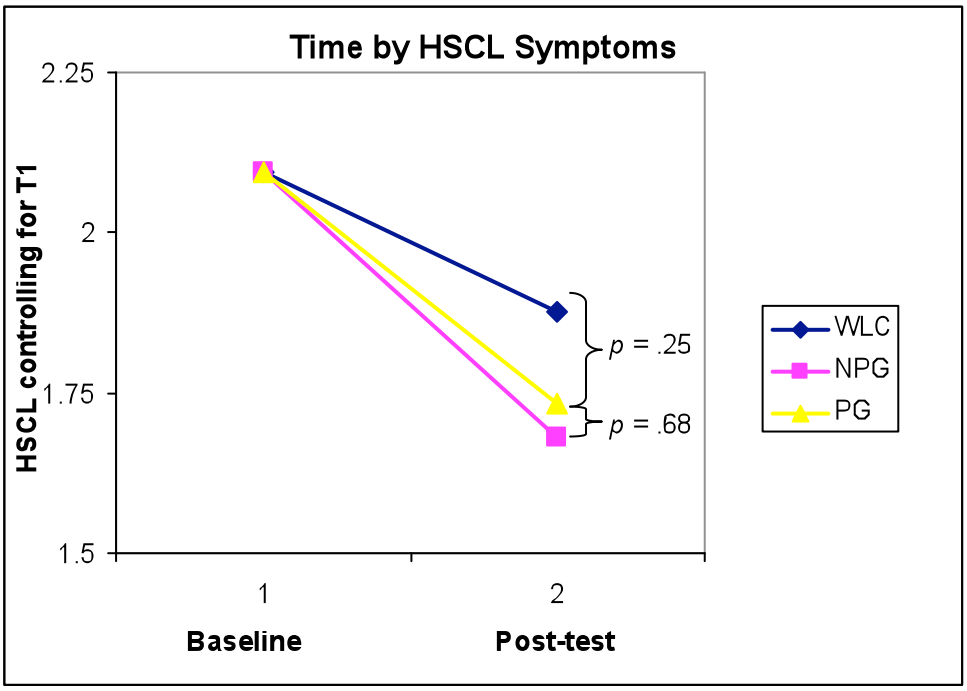
ANCOVA indicated that there was a main effect for condition ($F(2) = 5.84$, $p = .004$, partial $\eta_2 = .09$) while covarying out the effect of pre-HTQ-b scores. Contrasts showed that participants in the WLC did not have significantly different HTQ scores when broadly defined than those in the PG ($b = .09$, $p = .33$). However, participants in the NPG showed significantly lower HTQ-b scores than those in the PG ($b = -.23$, $p = .02$, partial $\eta_2 = .05$) as well as compared to those in the WLC ($b = -.32$, $p = .001$, partial $\eta_2 = .09$). Results were therefore slightly different using a broader definition of traumatic stress that accounts for some cultural variability according to Mollica et al. (1992). In this case, people who received no trauma education in their workshop had significantly lower scores than people who received the workshop with trauma psychoeducation or who were in the WLC. People in the WLC had the highest scores though not significantly different from those receiving trauma psychoeducation.

Figure 2.



General symptoms. An ANCOVA with pre-test scores as a covariate and was conducted with condition as an IV and post-intervention HSCL scores as the dependent variable. The covariate was found to be linearly related to the DV within all levels of the IV and the slope of the regression line was equal for all groups (condition x HSCL T1 interaction, ($F(2) = 1.8$, $p = .17$). The test of the assumption of equal slopes was again not significant, and the null hypothesis was supported. However, the ANCOVA indicated that there was no main effect for condition ($F(2) = 1.37$, $p = .26$) while covarying out the effect of pre-HSCL scores. Thus, post-treatment scores reflecting general distress did not vary significantly across conditions (Figure 3.). Additionally, the effect of condition on HSCL symptoms did not depend on location (village 1 or 2) ($F(5) = .54$, $p = .59$).

Figure 3.



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Level of functioning. An ANCOVA with pre-test scores as a covariate was conducted with condition as an IV and post-intervention FA scores as the dependent variable. The covariate was found not to be linearly related to the DV within all levels of the IV (condition x FA T1 interaction, ($F(2) = 2.7$, $p = .02$). Thus, the assumption of equal slopes was met, given that the result was significant. The ANCOVA indicated that there was no main effect for condition ($F(2) = .83$, $p = .44$) while covarying out the effect of pre-FA scores. Thus, post-treatment scores reflecting level of functioning did not vary significantly across conditions.

Secondary Hypotheses

Relationship of prior exposure to trauma discourse to severity of PTSD symptoms. Our next hypothesis, that TDE would positively correlate with severity of PTSD symptoms at baseline, was assessed by examining relationships between HTQ scores and endorsement of specific types of exposure to trauma discourse information (radio, reading, and workshops). This HTQ total score represented responses to the items taken directly from the DSM criteria. The additional 14 items added by Mollica et al. (1992) for cultural variability were not considered. In cases where specific values were not specified (e.g. "many times"), responses were dropped from the analysis. Exposure to trauma information on radio or in reading were not predictive of baseline traumatic stress symptoms while controlling for traumatic events experienced (radio: $n = 133$, $B = -.13$, $p = .14$ and reading: $n = 223$, $B = -.10$, $p = .14$). Exposure to trauma workshops was negatively correlated with traumatic stress symptoms (HTQ) ($n = 235$, $B = -.22$, $p = .001$) when controlling for traumatic events experienced. Therefore, the prediction that there would be a significant positive relationship between TDE and PTSD symptoms at baseline was not supported. In

fact, these baseline analyses suggest that the more the participants had been exposed to trauma models in the form of trauma workshops, the lesser their PTSD symptoms. (However, only 11% of the sample had endorsed any prior exposure to trauma workshops. Running the same analysis with only those who had some prior exposure, results were not significant (n = 25, B = -.28, p = .21).)

For the sake of comparison, the relationship between non-PTSD specific (HSCL) symptoms and length of time in trauma workshops was assessed and found to be almost identical to traumatic stress symptoms (HTQ) (n = 123, B = -.21, p = .03). Therefore, unlike in the analyses based in the experimental design, this observed relationship between symptoms and prior TDE in the form of workshops was consistent across both general symptoms and specific traumatic stress symptoms.

Prior TDE as a moderator of treatment effect on symptoms

Post-intervention HTQ scores were regressed on individual items from the TDE measure (trauma psychoeducation from radio, reading, or workshops), condition, and their interaction (TDE x condition), while controlling for pre-intervention HTQ scores. There was no interaction between condition and prior exposure to traumatic stress workshops (b = .01, p = .81), prior exposure to reading about traumatic stress (b = .07, p = .57), or prior exposure to radio information about traumatic stress (b = -.01, p = .73). Thus, there was no indication that the effect of workshop condition depended on prior exposure to TDE.

CHAPTER 4: DISCUSSION

Event history and symptom levels

Our sample was drawn from a population of rural Burundians, all of whom reported histories of multiple extremely distressful events. These events included being forced to harm or kill others, the murder of family members, and rape. In most cases, the worst of the events took place more than twelve years prior to the investigation. An average of nine events was endorsed from a predetermined list. Given that the list was predetermined and given that there was no solicitation of additional events, it is likely that many participants experienced additional traumatic events.

Despite significant histories of multiple traumas, the participants reported relatively low levels of PTSD symptoms. Using Mollica et al.'s (1992) cutoff for the HTQ, 23.7% could be considered symptomatic for PTSD (16.9% using Mollica's broader definition of PTSD across cultures). This figure is slightly lower than the general rule that 30% of people exposed to traumatic events will develop PTSD (Bonanno, 2004). The figure is also lower than what might be expected especially considering the multiplicity and horrifying nature of events that most participants endorsed.

The question remains as to how to explain the somewhat lower rates of PTSD symptoms than might be expected for a group exposed to so many horrific events. One possible explanation is that there has been a process of natural recovery during the interim period. Most participants suffered the bulk of their traumatic events between 1993 and 1995. Given the continued but intermittent civil war and general lack of security within the community, there is reason to suspect that many participants have experienced traumatic events in the more recent years leading up to our study. We did not assess to what degree

participants continued to experience trauma over the last ten years. Therefore one explanation for the low level of PTSD symptomatology relative to the substantial trauma history is a gradual abatement of symptoms over the years. Such findings are strikingly similar to Bryant's (2004) reports that the vast majority of people either recover naturally or are resilient such that they never develop full-scale PTSD. However, this explanation stands in contrast to conventional claims that PTSD is unremitting without treatment (e.g., traumatized Vietnam veterans who experienced trauma over 30 years ago; see Rosenheck & Fontana, 1994).

A second possibility is that participants were underreporting. However, the Burundian interviewers, whose presence should have facilitated disclosure, stated that they did not think that participants were generally underreporting, but were in fact often very eager to disclose the ways in which they had been affected by their experiences. Underreporting is also unlikely given that the mean scores on the HSCL-25 (anxiety and depression subscales) exceeded inpatient clinical means by almost half a standard deviation.

A third explanation for the low levels of PTSD in this sample is that PTSD symptoms do not accurately capture the type of post-traumatic stress reactions of these individuals. Many more participants exceeded Mollica et al.'s (1987) cutoff for substantial distress on the HSCL than they did on the HTQ. Perhaps the most fitting construct for traumatic stress in Burundi is something other than PTSD. The relationship between traumatic events and the ensuing symptoms remains complex, particularly in a cross-cultural setting.

Primary hypotheses

Our findings suggest that the HROC intervention reduces traumatic stress symptoms in program participants. Eight weeks after the three-day HROC workshop (and 3 weeks after the follow-up day), participants of each treatment condition reported significantly lower levels of traumatic stress than those in the wait-list control. Clearly, this intervention serves to reduce symptoms above and beyond the effects of time. More specifically, our primary hypothesis was supported with the finding that compared to WLC, participants randomized to the condition without reference to trauma saw greater decreases in their traumatic stress symptoms than those randomized to the condition with trauma education content. Given that the only difference between these two conditions was the inclusion of psychoeducation about trauma according to a PTSD model, we can conclude that PTSD psychoeducation reduces the otherwise beneficial effect of HROC's "trauma healing" intervention. Rather than having a normalizing effect, new information about traumatization may perhaps exacerbate symptoms, alter the nature of symptoms, or suggest a condition of protracted vulnerability. Such a finding supports the concerns that the importation of the trauma model may undermine resilience and lead to greater psychopathology (Summerfield, 2001). This finding was also supported when considering with Mollica's (1992) broader definition of traumatic stress. Again, those in the treatment condition without trauma psychoeducation saw the greatest decreases in the traumatic stress symptoms. Those in the standard workshop did not see improvement of a significant difference from the WLC.

There are at least three ways to understand the differential effect of treatment conditions. One is to argue that the effect of PTSD psychoeducation was due to the fact

that people, in hearing these concepts for the first time, could then better express what they had been either too shy to endorse or were otherwise unable to articulate. Prior to the intervention they were already experiencing intrusive thoughts, foreshortened future, and an exaggerated startle response but could not conceptualize it sufficiently to endorse it on a symptom inventory. One way to clarify this issue is to make the distinction between experience and expression of symptoms. Do we know if the participants were experiencing symptoms but not expressing them, or were they not experiencing them? While it is possible that some participants were experiencing but not expressing symptoms, this seems unlikely given that participants did express moderate levels of distress on both symptom measures at baseline. Thus, there was no indication at baseline that they did not have the words for these items or were too shy or hesitant to endorse them.

A second explanation is that a demand characteristic resulted in different patterns of responding to questionnaires. Participants who had learned about PTSD as part of their intervention were more inclined to give the socially desirable response of endorsing PTSD symptoms. In this explanation, there is no actual difference in symptoms, but rather only a difference in response styles.

The third explanation is that the participants did not have the symptoms or had them to a lesser degree that the symptoms were not associated with functional impairment or severe distress. This explanation suggests that the effect of psychoeducation is to foster new symptoms and new vulnerability in someone who would not otherwise have experienced them. A plausible mechanism for this effect is that education about supposedly-normative reactions to trauma induces an expectation

that trauma exposure will be debilitating. Additional studies and innovative research designs will be necessary to further tease apart these two possible explanations for the differences observed across condition. The intention to specify a PTSD symptom cluster emphasis (hypothesis 2) was aimed at further elucidating this issue, but this plan proved not to be feasible. Nonetheless, these results stand strongly in support of the dissenting opinion to the conventional wisdom that in some non-industrialized settings, PTSD psychoeducation may not be indicated.

These differences between conditions were not evident within measures of anxiety, depression, and somatization symptoms (HSCL) or within a measure of level of functioning. Whereas all three conditions exhibited significant decreases from pre-test to post-test, there were no significant differences in general symptoms between conditions. Thus, the observed decreases did not vary significantly by symptom type. As with general symptoms, each condition experienced significant improvement in level of functioning, yet these differences did not vary significantly between conditions. Most likely this observed reduction in symptomatology and improvement in function was the result of causal factors common to all conditions such as enlistment in a treatment program, regression to the mean, and natural recovery.

The observed effect that the HROC program had on the distress of its participants was limited to a reduction in traumatic stress symptoms and that reduction was most pronounced in the treatment condition that did not include PTSD psychoeducation. As the objective of the HROC program was specifically to target traumatic stress, it is perhaps a logical expectation that reduction in other symptom areas would not be achieved (relative to WLC). However, one might reasonably expect, given their

theoretical relatedness, that a reduction in traumatic stress symptoms would be echoed in measures of general symptoms and level of functioning. That the observed effect was specifically limited to PTSD symptoms further strengthens the validity of the conclusion that PTSD psychoeducation played a causal role in the diminishment of the otherwise beneficial intervention as it reduced symptomatology. Lastly, one might argue that these observed effects are the result of an effect specific to the group. However, it should be noted that this sample was a composition of people from distinct communities, and that each condition was conducted in each condition.

Secondary hypotheses

Given the differences between treatment conditions as identified in the experimental design, one might expect to capture some of the same effect between related variables at baseline. Indeed, Yeomans, Herbert, and Forman (in press) found in a similar sample that higher levels of exposure to trauma-related workshops and reading were both associated with greater PTSD symptoms when controlling for number of events experienced. In this study, the same analysis led to nonsignificant findings with the exception of trauma-related workshops which was negatively related to traumatic stress symptoms. However, in contrast to Yeomans et al. which found the workshops-HTQ relationship to be significantly greater than the relationship between workshops-HSCL, the present study found that workshops-HSCL relationship was not significantly different from the workshops-HTQ relationship.

Our last hypothesis that prior TDE would moderate the reduction of PTSD symptoms post-intervention was also not supported. This prediction had been based on the expectation consistent with the primary hypotheses that TDE would suggest

vulnerability and greater symptoms that would mitigate the benefits of the intervention. However, given that we could not replicate the results of Yeomans et al. (in press) in which TDE was related to greater trauma symptoms, we would not expect this moderation effect to exist.

Study strengths and limitations

Certain limitations of the study warrant discussion. Our attempt to improve on past studies by including a specific assessment of level of functioning was hampered by a measure that lacked sensitivity with this specific sample. As a result, there was very little range in this variable because the vast majority reported no difficulties with level of functioning. Furthermore, interviewers on occasion failed to properly assess a hypothetical level of functioning if the practical obstacle to being able to complete the task was removed (e.g., "how well could you do it if you DID have animals to care for?"). A few responses ("not enough time to go to meetings" and "need hot water to wash myself" were difficult to assess in terms of whether they were indicative of a disability of some kind (mental health or physical) or only described a practical issue. Nonetheless, the fact that people reported reasonably high levels of distress and minimal difficulty with functioning may point a need for further research to understand the relationship between level of functioning and symptoms in different cultural settings.

A second limitation lay in the interpretation of the response to the specific content of TDE. Responses were sometimes ambiguous as to whether people were describing specific information about PTSD and trauma or if they were describing more general information about the effects of terrifying events. Analyses were conducted with both liberal and conservative interpretation of these responses to the extent that a sufficient

sample size was still available. Results did not vary accordingly, so the analyses with the more conservative interpretation have been presented. Lastly in reporting frequency of TDE, interviewers did not always sufficiently press participants for responses more specific than "many times." We had to drop these responses so our sample was unfortunately narrowed for these analyses.

Despite these methodological limitations, the study also possessed several notable strengths. This study addressed the particular question around PTSD psychoeducation while simultaneously providing a treatment outcome study for a grass roots non-profit organization. Measures were translated and blind-back translated by and the study procedures were refined in consultation with native Burundians. Interviews were conducted entirely by local Burundian staff who were unaffiliated with the HROC project and at both pre and post test were unaware of the two treatment conditions and the associated predictions. Lastly, the sample was markedly provincial with minimal exposure to Western culture.

CHAPTER 5: SUMMARY AND CONCLUSION

Posttraumatic stress disorder is a construct that remains controversial in its application to people around the world, but particularly when applied to non-industrialized cultural settings. Nonetheless, the PTSD construct is seeing wider and more diverse application across diverse international settings. The assumption behind its dissemination is that PTSD psychoeducation will serve to reduce the distress and inform the treatment of all people despite the radically different cultural settings in which they make their lives. The findings of this study suggest that PTSD psychoeducation for people without prior exposure to such ideas may be to diminish the benefits of other treatment strategies such as

those included in a HROC workshop. Such elements include bringing both ethnic groups and providing skills and a context to rebuild relationships, gentle exposure techniques in which people are encouraged to recount their traumatic experiences to each other, and the simple witness to the fact that each person is not alone in what they have suffered through and in the distress that may continue to persist.

The support for the proposed primary hypothesis suggests that additional research on the effects of PTSD psychoeducation as part of treatment is recommended. The current results strongly suggest the importance of appropriate caution when presuming that such psychoeducation is a critical component of recommended treatment. These results suggest that inclusion of this partly culturally-based model risks compromising treatment effects and make even lead to greater vulnerability and increased symptoms.

The degree to which PTSD is "universal" may be largely driven by the degree to which the cultural ideas inherent in a Western trauma discourse are imported to foreign lands. This study suggests that in some settings psychoeducation may negatively influence symptom presentation. The PTSD construct assumes an emphasis on the individual psyche, vulnerability, and sensitivity to horrific events that may undermine protective cultural factors of collectivism, fatalism, and resilience in the face of hardship.

That people in a radically different cultural setting might have a negative effect from learning about PTSD implies that cultural determinants of PTSD may also be at work in the industrialized domestic setting. Despite being well established in mainstream and academic circles, PTSD in the U.S. should not escape a critique that investigates cultural influences on symptom presentation at home. Further research is critical to discern the

degree to which the introduction of trauma models promotes recovery or constitutes a risk of shaping clinical symptoms and even pathologizing normal responses to traumatic events.

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Appendix A: HSCL

Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much the symptoms bothered or distressed you in the last week, including today. Place a check in the appropriate column. If the question is too sensitive to answer, please choose, "prefer not to answer" instead of answering inaccurately.

Scale: 1 – not at all 2 – a little 3 – quite a bit 4 - extremely

1.	Suddenly scared for no reason	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
2.	Feeling fearful	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
3.	Faintness, dizziness, or weakness	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
4.	Nervousness or shakiness inside.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
5.	Heart pounding or racing.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
6.	Body trembling	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
7.	Feeling tense or keyed up	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
8.	Headaches	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
9.	Spells of terror or panic	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
10.	Feeling restless, can't sit still	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

11.	Feeling low in energy, slowed down	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
12.	Blaming yourself for things	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
13.	Crying easily	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
14.	Loss of sexual interest or pleasure	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
15.	Poor appetite	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

16.	Difficulty falling asleep and difficulty sleeping	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
17.	Feeling hopeless about the future	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
18.	Feeling blue	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
19.	Feeling lonely	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
20.	Thoughts of ending your life	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
21.	Feeling of being trapped or caught	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
22.	Worrying too much about thing	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
23.	Feeling no interest in things	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
24.	Feeling everything is an effort	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
25.	Feelings of worthlessness	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

26.	Stomach pain	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
27.	Pains in the heart or chest	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
28.	Heavy feelings in your arms or legs	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
29.	Pains in the lower back	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
30.	Soreness of your muscles	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
31.	Trouble getting your breath	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
32.	Hot or cold spells	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
33.	A lump in your throat	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
34.	Weakness in parts of your body	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
35.	Numbness or tingling in parts of your body	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

Appendix B: HTQ (Part I)

Instructions: We would like to know something about your experiences in the past. Knowing what your past experiences are will help us to create better programs. You may find answering some of the questions upsetting and if this is so, please feel free not to do so. We will read a list of different experiences. Please indicate whether you have experienced, witnessed, or heard about this event since 1993.

E=Experienced W=Witnessed H=Heard About N= No X = Prefer not to answer

Lack of shelter	E	W	H	N	X
Lack of food or water					
Ill health without access to medical care					
Confiscation or destruction of personal property					
Combat situation					
Narrowly escaping death					
Rape					
Sexual abuse or sexual humiliation					
Serious physical injury from combat					
Forced to hide					
Forced to hide among the dead					
Someone was forced to betray you and place you at risk of death or injury					
Confined to indoors because of danger outside					
Forced to physically harm or kill a family member or friend					
Forced to physically harm or kill someone who is not a family member or friend					
Disappearance or kidnapping of spouse					
Disappearance or kidnapping of son or daughter					
Death of a family member					
Imprisonment					

HTQ (Part IV)

The following are symptoms that people sometimes have after experiencing hurtful or terrifying events in their lives. Please read each one carefully and decide how much the symptoms bothered you **in the past week**. If the question is too sensitive to answer, please choose, "prefer not to answer" instead of answering inaccurately.

Scale: 1 – not at all 2 – a little 3 – quite a bit 4 - extremely

1.	Recurrent thoughts or memories of the hurtful or terrifying event	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
2.	Feeling as though the event is happening again.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
3.	Recurrent nightmares	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
4.	Feeling detached or withdrawn from people	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
5.	Unable to feel emotions	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
6.	Feeling jumpy, easily startled	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
7.	Difficulty concentrating	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
8.	Trouble sleeping	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
9.	Feeling on guard	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
10.	Feeling irritable or having angry outbursts	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
11.	Avoiding activities that remind you of the traumatic or hurtful event.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
12.	Inability to remember parts of the most traumatic or hurtful event.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
13.	Less interest in daily activities	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
14.	Feeling as if you don't have a future	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
15.	Avoiding thoughts or feelings associated with the traumatic or	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

	hurtful experience		
16.	Sudden emotional or physical reaction when reminded of the most hurtful or traumatic event	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
17.	Feeling that people do not understand what happened to you.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
18.	Difficulty performing work or daily tasks	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
19.	Blaming yourself for things that have happened	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
20.	Feeling guilty for having survived	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
21.	Hopelessness	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
22.	Feeling ashamed of the hurtful or traumatic events that have happened to you	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
23.	Spending time thinking about why these events happened to you	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
24.	Feeling as if you are going crazy	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
25.	Feeling that you are the only one who suffered these events.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
26.	Feeling others are hostile toward you	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
27.	Feeling that you have no one to rely on	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
28.	Finding out or being told by other people that you have done something that you cannot remember	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
29.	Feeling as if you are split into two people and one of you is watching what the other is doing	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer
30.	Feeling someone you trusted betrayed you.	1 2 3 4 □ ------- □ -------- □ ------- □	Prefer not to answer

Appendix C: Trauma Discourse Exposure Items for Content Validity Coding

Please rank these items from 1-11 (one being the most, and 11 the least) according to how well they indicate having learned about Western models of traumatic stress such as Postraumatic Stress Disorder.

1. Listening to radio programs about how people's mental health is affected by extremely frightening or violent events. Rank: _____

2. Reading brochures or information about how people's mental health is affected by extremely frightening or violent events. Rank: _____

3. Attending workshops or trainings about how people's mental health is affected by extremely frightening or violent events. Rank: _____

4. Level of education (number of years in school). Rank: _____

5. Meeting people born in Europe, Canada, or the United States. Rank: _____

6. Having friends who were born in Europe, Canada, or the United States. Rank: _____

7. Watching TV. Rank: _____

8. Listening to radio. Rank: _____

9. Reading newspapers or magazines. Rank: _____

10. Receiving assistance from a foreign humanitarian organization like the Red Cross, the World Food Programme, the United Nations, International Rescue Committee, World Vision, Catholic Relief Services. Rank: _____

11. Receiving modern health care or medical services Rank: _____

Appendix D: Trauma Discourse Exposure (TDE) Interview

Note: this measure will be reduced according to the ranking of item by expert judges.

General Western Exposure

Before today, have you spoken with people born in Europe, Canada, or the United States?	Yes	No
How many times?		

Do you have friends who were born in Europe, Canada, or the United States?	Yes	No
How many?		

Do you:				
Watch TV?	Yes No			
How often?	*Every day*	*Most days*	*Once a week*	*Once a month*
Listen to radio?	Yes No			
How often?	*Every day*	*Most days*	*Once a week*	*Once a month*
Read newspapers?	Yes No			
How often?	*Every day*	*Most days*	*Once a week*	*Once a month*

Trauma Discourse Exposure

Have you ever listened to radio about how people's mental health is affected by extremely frightening or violent events?	Yes	No
When or how long ago?		
What did you learn?		
How many times did you listen to such programs?	*Once Twice 3-4 time 5+ times*	

(*If literate*)

Have you ever read information about how people's mental health is affected by extremely frightening or violent events?	Yes	No
When or how long ago?		
What did you learn?		
How many times did you read this information?	*Once Twice 3-4 time 5+ times*	

Have you ever attended workshops about how people's mental health is affected by extremely frightening or violent events? Yes No
When or how long ago?
What did you learn?

How many days have you spent in these trainings? 1-2 3-5 7-10 10+

Do you know what "Posttraumatic Stress Disorder" is? (use English) Yes No
What is it?

Do you know what "trauma" is? (use English) Yes No
What is it?

Do you know the word Ihahamuka? Yes No
What is it?

Interviewer: _____

Appendix E: Functional assessment measure

Functional assessment measure for men

Task or activity	Degree of difficulty completing task or activity					Cause of difficulty
	None	Little	Moderate	A Lot	Often can't do tasks	
1. Wash self	0	1	2	3	4	
2. Earn money	0	1	2	3	4	
3. Advise the family	0	1	2	3	4	
4. Manual labor	0	1	2	3	4	
5. Socialize	0	1	2	3	4	
6. Dress self	0	1	2	3	4	
7. Attend meetings	0	1	2	3	4	
8. Other	0	1	2	3	4	

Functional assessment measure for women

Task or activity	Degree of difficulty completing task or activity					Cause of difficulty
	None	Little	Moderate	A Lot	Often can't do tasks	
1. Wash self	0	1	2	3	4	
2. Care for children	0	1	2	3	4	
3. Cook	0	1	2	3	4	
4. Wash clothes/utensils	0	1	2	3	4	
5. Clean house	0	1	2	3	4	
6. Participate in community development activities	0	1	2	3	4	
7. Attend meetings	0	1	2	3	4	
8. Grow food	0	1	2	3	4	
9. Console and assist the bereaved	0	1	2	3	4	
10. Other	0	1	2	3	4	

Appendix F: Demographic Questionnaire

Date: Location:

Name: _____ Age: _____ Sex: ____

Where were you born? _____

What do you do to support yourself or your family?
_____

Appendix G: Intervention agenda

Intervention agenda - Morning of day one

Component	Description
Song and prayer	A participant is asked to lead the group in a religious song and prayer (15 min).
Opening Talk	Workshop facilitators welcome the participants and give an overview of workshop (25 min).
Introductions	Participant introduce themselves and expresses how they hope to benefit from the workshop (20 min).
Group Guidelines/Norms	Facilitators elicit group guidelines for behavior that will ensure participants feel safe and comfortable in the workshop (20 min).
Community Building Game	Participants are put in groups of four and instructed to further interview and introduce each other (30 min).
Break	Break for tea (20 min)
Defining Trauma (PG)	Facilitator leads a discussion on the meaning of "trauma" (15 mir
Concentric Circles (NPG)	Participants are paired and asked to disclose opinions, beliefs, and experiences to each other (20 min).
Causes of Trauma (PG)	Group brainstorms possible causes of trauma (20 min).
Great Wind Blows (NPG)	An "ice breaker" in which participants reveal information about themselves (20 min).
Symptoms of Trauma (PG)	The facilitator describes and discusses the symptoms of PTSD (45 min).*
Projection (NPG)	In cross-ethnic pairs, participants make guesses about aspects of their partner, and later learn the truth (45 min).
Small Group Discussions**	The group gathers in groups of five to discuss what they learned in the morning session (20 min).

**Subsequent opportunities for discussion of PTSD psychoeducation

Workshop agenda - Afternoon of day one

Component	Description
Song and Prayer	A participant is asked to lead the group in a religious song and prayer (15 min).
Name Game	Each participant chooses an "adjective name" in which their name is preceded by a positive adjective (e.g. Admirable Adrien) (35 min).
Consequences of Trauma (PG)** Consequences of the Crisis (NPG)	In small and large group format, participants discuss how they have been affected by their (traumatic) experiences (45 min)
Conclusion	Facilitator summarizes the day and acknowledges everyone's participation (15 min).
Evaluation of the Day	The group is solicited for their feedback on each component of the day's workshop (20 min).

**Subsequent opportunities for discussion of PTSD psychoeducation

Workshop agenda with psychoeducation - Morning of day two

Component	Description
Song and prayer	A participant is asked to lead the group in a religious song and prayer (15 min).
Empty Chair Exercise	Each participant is given a chance to speak to someone who has been hurtful to them by directing their comments to an empty chair (90 min).
Loss, Grief, and Mourning Defined	A facilitator leads a discussion to define terms of loss, grief, and mourning in Kirundi (30 min).
Personal Reflection	In small groups, participants share experiences of loss (60 min)
Break	Break for tea (20 min)
Group Sharing of Losses	Summaries of and comments about personal losses are discussed in the full group (45 min).
Stages of Grief	Facilitator presents a model on the stages of grief: denial, anger, bargaining, depression, and acceptance (30 min).
Healing from Grief	A facilitator solicits ideas on how people can overcome their grief (30 min).
Visioning Exercise	Facilitator leads an exercise in which participants are asked to imagine how their lives might be different once they have moved through the stages of grief (30 min).

Break	Break for lunch (60 minutes)

Workshop agenda with psychoeducation - Afternoon of day two

Component	Description
Song and Prayer	A participant is asked to lead the group in a religious song and prayer (15 min).
Something Valued Exercise	All participants are asked to share about one thing that they value very dearly (30 min).
Different Types of Anger	Facilitator leads a discussion on the different causes of anger (20 min).
How to Handle Anger	Facilitator leads a discussion on how to attenuate one's anger (30 min).
Break	Break for tea (20 min)
Anger Role Plays	Participants practice using anger management skills in role played situations (40 min).
Relaxation Exercise	Facilitator leads a deep breathing and visualization exercise (30 min).
Closing and Evaluation	The group is solicited for their feedback on each component of the day's workshop (20 min).

Workshop agenda with psychoeducation - Morning of day three

Component	Description
Song and prayer	A participant is asked to lead the group in a religious song and prayer (15 min).
Seeing Good in Others	Facilitator gives a presentation of ways to remind ourselves to attend to the good in other people (20 min).
Trust Walk	In pairs, participants take turns leading each other blindfolded around the room and outside (30 min).
Break	(20 min)
Tree of Mistrust	Facilitator leads a discussion on the causes and results of mistrust (25 min).
Tree of Trust	Facilitator leads a discussion on the causes and results of trust (25 min).
What Can We Do to Build Trust	Facilitator solicits ideas from participants about how trust can be restored in a community (30 min).
Break	Break for lunch (60 minutes)

Workshop agenda with psychoeducation - Afternoon of day three

Component	Description
Acceptance Circle	
Question and Answer Period	An unscheduled period to take questions or address related topics at the request of the group (30 min).
What Have We Learned	Each participants is given a chance to share what they have learned from the workshop (60 min).
Break	Break for tea (20 min)
Recommendations for the HROC Program	Participants make recommendations for future workshops (20 min)
General Evaluation	Participants discuss and evaluate the contents of the workshop (20 min)
Closing	Participants gather for religious song and prayer (15 min).

VITA

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